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MARINE MAMMAL AND SEA TURTLE STRANDING RESPONSE

2009 GRANT REPORT

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VIRGINIA

AQUARIUM STRANDING RESPONSE



Virginia Coastal Zone
MANAGEMENT PROGRAM

*VIRGINIA AQUARIUM FOUNDATION STRANDING
RESPONSE PROGRAM*

*Marine Mammal and Sea Turtle
Stranding Response
2009 Grant Report*

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**A FINAL REPORT TO THE
VIRGINIA COASTAL ZONE MANAGEMENT PROGRAM
DEPARTMENT OF ENVIRONMENTAL QUALITY
COMMONWEALTH OF VIRGINIA**

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The mission of the Virginia Aquarium & Marine Science Center (formerly Virginia Marine Science Museum) is to increase the public's knowledge and appreciation of Virginia's marine environment and inspire commitment to preserve its existence. The Aquarium is operated by the City of Virginia Beach in cooperation with the Virginia Aquarium Foundation (VAQF) and the Commonwealth of Virginia.

The Virginia Aquarium Research & Conservation Division is responsible for directing the organization's efforts in these areas. With primary support from the VAQF, the division is dedicated to conservation of the marine environment through research, partnerships, marine animal rescue and education.



Virginia Coastal Zone MANAGEMENT PROGRAM

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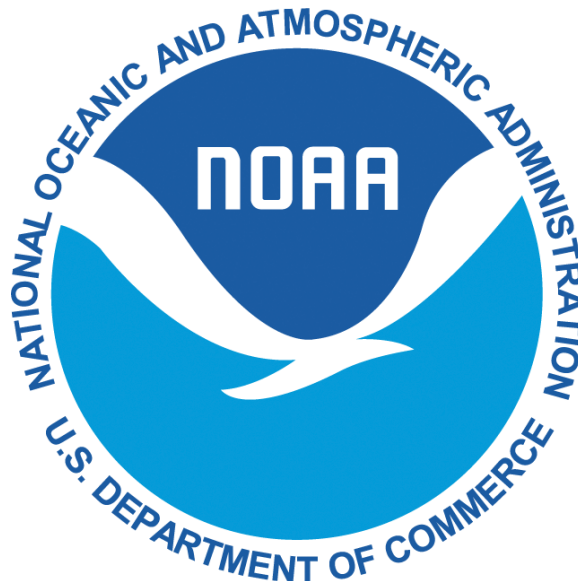


TABLE OF CONTENTS

Introduction.....	2
Stranding Response Methods.....	4
Discussion of 2008 Stranding Data.....	5
VAQS Activities During 2008	10
Summary	11
Literature Cited	12
Tables	13
Figures.....	23
Appendix I: Professional and Education Activities	31
Appendix II: Highlights of the Year - Marine Mammals.....	35
Appendix III: Highlights of the Year - Sea Turtles	36
Appendix IV: Stranding Network Datasheets.....	37

INTRODUCTION

All marine mammals and sea turtles are designated as protected species by the Marine Mammal Protection Act (1972) and/or the Endangered Species Act (1973). The Virginia Aquarium & Marine Science Center Foundation Stranding Response Program (VAQS) holds permits from state and federal authorities for all activities related to marine mammal and sea turtle stranding response and research. VAQS has been responding to marine mammal and sea turtle strandings (more than 4,250) in Virginia since 1987. The Aquarium and the VAQS Stranding Center are located in Virginia Beach, VA. VAQS responds to all marine mammal strandings in Virginia and currently maintains the state marine mammal stranding database. In addition, VAQS and their cooperators coordinate the Virginia Sea Turtle Stranding and Salvage Network throughout Virginia. Sea turtle stranding data are recorded in the VAQS database and the state sea turtle stranding database that is also supported by the Virginia Institute of Marine Science (VIMS) in Gloucester Point.

VAQS uses staff, volunteers and other organizations (cooperators) to report, record, collect, and examine stranded animals. The organization and training of primary response cooperators is crucial to the stranding network. Rapid response to strandings can result in the rescue of live animals and the collection of valuable data that may otherwise be lost due to decomposition and/or scavenging. Formed in 1991, the VAQS Stranding Response Team (Team) is composed of staff and volunteers trained to respond to stranded animals. VAQS staff provides training programs for 65 Team volunteers and personnel from cooperating agencies and organizations. Instruction in biology, ecology and both live and dead stranding response protocols are provided for marine mammal and sea turtle species found in Virginia. These cooperative training efforts have included the U.S. Coast Guard, U.S. Fish and Wildlife Service, NOAA Fisheries Service (NMFS), The Nature Conservancy, Virginia Marine Resources Commission, Virginia Department of Game and Inland Fisheries, VIMS, state parks, national wildlife refuges, and regional law enforcement authorities. As a result of these continuing efforts, VAQS continues to maintain and improve statewide stranding response.

Marine mammal groups found in Virginia include cetaceans (dolphins, porpoises and whales), pinnipeds (seals) and sirenians (manatees). Marine mammal strandings occur in all months of the year. During the 1990s, Virginia averaged 61 marine mammal strandings per year with a high of 105 in 1994. Since then, strandings have increased dramatically. For the years 2000-2009, Virginia has averaged 103 marine mammal strandings (Fig. 1).

It is important for organizations such as VAQS to examine stranded marine mammals because these species are very difficult to study in the wild. Very little is known about the natural history of many marine mammal species and strandings provide a rare opportunity to thoroughly examine these animals. With the advent of new techniques such as molecular genetic analyses, stranded animals provide a wealth of information about wild populations that are difficult and expensive to study in situ. In some species such as pygmy/dwarf sperm whales and beaked whales, data collected from stranded animals provides the best information available on the animals' natural history. Stranding records can indicate seasonal trends in presence and suggest areas of high concentration of marine mammal species such as bottlenose dolphins and harbor porpoises (Read and Murray, 2000). Spatial and temporal trends in marine mammal mortalities, such as those caused by unusual mortality events and/or fisheries interactions, can also be monitored from stranding records. Each stranded marine mammal is thoroughly examined including body measurements, external appearance, and internal condition (via necropsy). Data and tissues are collected for life history, histological and toxicological

studies. Samples are collected by VAQS and supplied to the Smithsonian Institution, NMFS and numerous other research organizations.

In addition to dead strandings, the VAQS Team responds to several live marine mammals each year. The level of response depends on the type of animal. Sick or injured baleen whales and toothed whales larger than 10 feet in length are virtually impossible to rescue and often must be humanely euthanized. Some smaller cetaceans can be rescued if found quickly and in suitable condition. They must be supported in water as soon as possible and treated for shock. Successful cetacean rehabilitation requires large tanks, experienced personnel and access to sophisticated equipment. Currently, VAQS is not equipped to attempt long-term rehabilitation of a cetacean. As soon as possible, animals that are good candidates for rehab are transferred to other facilities. Pinnipeds (seals), on the other hand, are amphibious animals and can be transported in canine kennels. The VAQS Stranding Center has a seal holding pen adequate for short-term triage and a seal rehabilitation unit capable of holding one seal. Seals in triage can be held in a 4' x 4' dry pen with gated entry into a 4' x 4' pool. Following triage, animals are placed in a seal rehabilitation area (large enough for one animal) or are transferred to other facilities in the stranding network that specialize in long-term rehabilitation and release of pinnipeds. Since 2000, VAQS has responded to an average of 4.6 cetaceans and 4.9 pinniped live strandings in Virginia each year. The VAQS Team also responds to live animal emergencies in northeastern North Carolina. In recent years, the number of responses to live marine mammal strandings in North Carolina has increased (8.5 per year since 2000).

Five species of sea turtles (loggerhead, Kemp's ridley, leatherback, green, and hawksbill) are found in Virginia. Sea turtle strandings occur primarily in the late spring, summer and fall. The VAQS Team responded to an average of 83 sea turtle strandings per year during the 1990s. Since then, strandings have increased dramatically. Since 2000, the VAQS has recorded an average of 256 sea turtle strandings per year (Fig. 6).

Sea turtles are examined in much the same way as marine mammals. Data are recorded for all strandings, and necropsies are performed on many fresh stranded carcasses. Stranding trends, including probable causes of mortalities, are monitored through stranding records. Stranded sea turtles are checked for flipper and pit tags and results are reported to NMFS. A small number of loggerhead sea turtles nest on Virginia beaches each year. In addition, several green sea turtles have been recorded nesting for the first time in Virginia. The VAQS Team participates in a nesting beach monitoring program with the Back Bay National Wildlife Refuge. Live strandings of sea turtles have also increased and the VAQS Team has successfully rehabilitated and released many of the stranded turtles. Since 2000, VAQS has responded to an average of 10.7 live sea turtle strandings in Virginia each year. In addition, VAQS Team expertise in sea turtle rehabilitation has resulted in many turtles (more than 45) that have stranded outside Virginia being transferred to VAQS for rehabilitation.

In addition to stranding response, VAQS conducts research on marine mammals and sea turtles. Photo-identification is a non-invasive technique that takes advantage of naturally occurring marks on animals. Photo-ID is used to study both bottlenose dolphins and large whales, primarily humpback whales, in the nearshore waters of Virginia and North Carolina. VAQS has also been conducting research on loggerhead sea turtles since 1990. Early research involved the study of growth potentials of loggerhead hatchlings in controlled environments. Post-release satellite tracking of aquarium-reared loggerheads was conducted with the help of VIMS. Growth and nutritional studies continue with hatchling loggerheads and non-releasable juvenile and adult loggerheads, Kemp's ridleys and greens.

VAQS Team staff and volunteers present the results of their research at national

and regional workshops, at professional meetings and in numerous publications (Appendix I). In addition, VAQS research has been presented to more than 10 million people through innovative Aquarium exhibits and public programs. Staff and volunteers present educational programs related to stranding events, on-going stranding response and research throughout the year. Recently, staff have been gaining valuable experience in live animal rehab by visiting and working with staff at other facilities. VAQS staff also serves on federal management and scientific teams studying the interactions of protected species with commercial fisheries and other potentially threatening human activities. They regularly use their expertise and data to comment on projects that may have an effect on regional marine mammal and sea turtle populations, including a proposed naval undersea training range off Virginia's eastern shore, and possible offshore energy exploration and development. Finally, public and private organizations conducting natural resource surveys and environmental assessments routinely utilize the VAQS stranding database and the expertise of staff for information regarding protected species in Virginia.

STRANDING RESPONSE METHODS

When examining dead stranded marine mammals and sea turtles, the VAQS Team follows data collection protocols developed by NMFS (Appendix IV). For marine mammals, Level A data are collected on all strandings and recorded in the marine mammal stranding database.

Level A data include:

observer	date
species	location
condition	body length
weight	gender
findings of human interaction *	
sample collection and dissemination	
disposition of carcass	

(* Findings of human interaction consist of clues on a carcass that human activities were responsible for injuries and/or the death of the animal. The two most common types of human interactions are fishery entanglements and vessel strikes. In addition, special data collection protocols and forms have been developed by VAQS for assessing human interactions in marine mammal and sea turtle strandings)

Level B and C data are collected from fresh carcasses. Level B and C data are recorded on numerous other data sheets often provided by other research organizations. These more precise data include:

- age
- extensive body measurements
- descriptions and photographs of external & internal appearance
- parasite and pathology occurrence
- stomach contents
- reproductive status
- genetic information
- tissue contaminant levels
- information for specific research

In order to provide timely, accurate and usable data, VAQS compiles these data in a database. The computer system, database and software allow for analytical study of the data

including GIS mapping. When combined with the extensive VAQS photo and video catalogs, the marine mammal stranding database can be an invaluable tool for scientists, natural resource managers and other state and federal agencies.

Sea turtle data are collected in much the same manner as for marine mammals (Appendix IV). In addition to the Level A data listed above, the VAQS Team also examines sea turtle carcasses for several types of tags. Pit tags and wire tags require specialized equipment in order to be detected. Fresh turtles are examined for stomach contents, gender and findings of human interaction.

Live marine mammals and sea turtles have become an increasing part of stranding response for the VAQS Team. Live stranding response is quite different from responding to dead animals. While time is important when responding to a fresh dead stranding, timely response is crucial to the welfare and potential survival of live stranded animals. Once a live stranding is confirmed, staff and volunteers can be ready to respond in minutes. Cooperating agencies, especially on Virginia's eastern shore, have immensely improved the VAQS Team's ability to rescue animals. Whenever possible, live stranded animals are rushed to the Stranding Center where they are immediately treated for shock and other obvious injuries. VAQS veterinary staff and the Team veterinary technician have developed protocols and data sheets for live animal response and rehabilitation. VAQS staff has established an excellent working relationship with medical diagnostic service companies and with local vet clinics that provide valuable services in the form of blood and sample analyses, radiograph support and doses of less common drugs. In addition, the medical team works with several specialized veterinarians and technicians, including eye specialists and advanced diagnostic technicians, on special cases. The VAQS Team is now experienced at working with live stranded sea turtles and seals and has gained valuable experience with live cetaceans.

DISCUSSION OF 2009 VIRGINIA STRANDING DATA

MARINE MAMMALS

VAQS stranding data are presented for the calendar year 2009. A total of 109 marine mammals stranded in Virginia during 2009 (Table 1). In the past ten years, the number of marine mammal strandings has varied from a low of 64 in 2000 to a high of 128 in 2001 (Fig. 1). The high numbers of strandings in 2001, 2003 and 2005 were accompanied by high numbers of harbor porpoise strandings (Fig. 5B). Marine mammal strandings occur in all months of the year, but some marine mammals (i.e. bottlenose dolphins, harbor porpoises and seals) tend to strand seasonally, while others (i.e. large whales and other cetaceans) can occur at any time of the year (Fig. 2). In the past ten years, bottlenose dolphins have comprised the majority of the marine mammals that strand each year. 2009 was another active year for VAQS with bottlenose dolphins comprising 74% of the strandings (Fig. 3). Marine mammal strandings occurred throughout Virginia's ocean and bay waters. Normally, the strandings are most common along the eastern shore and southern shore of the Chesapeake Bay mouth and the southern ocean coast (Fig. 4). Pictures of some of the notable marine mammal strandings in 2009 are included in Appendix II.

Marine mammals are divided into five data groups for analyses. These data groups are: (1) bottlenose dolphin - the most common marine mammal in Virginia, (2) harbor porpoise - a common small cetacean that occurs in late winter and spring, (3) large whales - primarily baleen whales such as humpback, fin, right and minke whales, (4) other cetaceans - primarily oceanic

species with low stranding rates such as pilot whales, pygmy and dwarf sperm whales, pelagic dolphins and beaked whales, and (5) pinnipeds - harbor, harp, hooded and gray seals. Live stranded animals are included in these analyses and are also addressed separately below.

Live strandings

In 2009, VAQS recorded nine live marine mammal strandings, five of which stranded in northeastern North Carolina (Table 2). These strandings occurred throughout the year and consisted of five seals and four cetaceans. Seals were recovered, provided with emergency medical care and triage, and then provided with long-term rehabilitation, if needed. Two of the seals were successfully rehabilitated and released. One of the seals (harp seal “Snuffy”, VAQS20091008) was outfitted with a satellite tag and released in Virginia. The post-release movements can be viewed on the WhaleNet website. The four cetaceans included one bottlenose dolphin, one Gervais’ beaked whale, one pygmy sperm whale, and one northern right whale. The most dramatic response occurred in North Carolina when a young right whale became stranded on a shoal off of Cape Lookout. This event turned in to one of the most challenging stranding responses in VAQS history due to the difficulty in reaching the whale and working in adverse conditions. Stranding response staff accessed the whale by helicopter and small boats over the course of several days. With help from UNC Wilmington, the NC Maritime Museum, and the U.S. Coast Guard, among others, the whale was humanely euthanized after spending nearly four days on the shoal. Though it was a very young whale, it had signs of entanglement and possible associated spinal defects. The other cetaceans that stranded either died on the beach or were humanely euthanized.

Bottlenose dolphin

Bottlenose dolphins (*Tursiops truncatus*) are the most common marine mammals sighted in Virginia waters. They are also the most commonly stranded marine mammals in the state. Most dolphins strand from April to October, which is concurrent with their seasonal appearance in Virginia coastal waters (Barco et al. 1999; Fig. 2). During 2009, 80 bottlenose dolphin strandings were recorded in Virginia (Figure 5A). This is a record high number for Virginia since the 1987 dolphin mortality event. Strandings occurred primarily along the Atlantic Ocean and lower Chesapeake Bay shorelines, although they were also recovered inside the bay, as well (Fig. 4). In 2009, 45% (36) of the strandings occurred in Virginia Beach and 39% (31) occurred on the eastern shore. Gender was determined for 60 of the 80 stranded dolphins. Females comprised 43% (26) and males comprised 57% (34) of the known gender animals. Twenty nine (36%) of the stranded dolphins were less than 160 cm (defined as “young of the year”, YOY), the approximate size of a one-year old dolphin (Fig. 5A; Urian et al. 1996). Examination of YOY has revealed evidence of infanticide in the form of broken bones, hemorrhaging and organ damage (Dunn et al. 2002). Of the dolphins that were fresh to moderately decomposed ($n = 43$), signs of human interaction could not be determined in 21 (49%), were positive in 16 (37%), and were not observed in six (14%). Most of the signs of interactions were related to fisheries entanglements.

Harbor porpoise

Harbor porpoise (*Phocoena phocoena*) were observed only occasionally in Virginia stranding records during the 1980’s. Increases in harbor porpoise strandings occurred along the

mid-Atlantic coast in 1993-1994 and the increases were most dramatic in Virginia (Cox et al. 1998, Swingle et al. 1995). In recent years, they have often been the second most commonly stranded marine mammals in Virginia. Harbor porpoises typically strand in late winter and early spring (Fig. 2), and strandings occur along the ocean shorelines (Fig. 4). During 1999, 40 harbor porpoise strandings were recorded in Virginia, but in 2000, that number dropped precipitously to only four. 2001 was another big year (30 strandings), followed by only six harbor porpoise strandings in 2002. There were 19 strandings in 2003, nine in 2004, 28 in 2005, nine in 2006, eight in 2007, six in 2008, and only eight in 2009 (Fig. 5B). Harbor porpoise strandings were at low levels (below 10) for the fifth consecutive year. Whether these patterns relate to fluctuations in abundance of the population or stocks, a threat that is cyclical in nature, or other factors, is not yet known.

Large whales

Large whales do not strand often in Virginia. With the exception of the sperm whale, large whales are typically baleen whales such as humpbacks or fins. All of the large whales normally found in Virginia are endangered species. Because of the logistics involved in examinations of large whales, an extensive large whale response protocol was developed (Blaylock et al. 1996). The protocol was developed in response to increased strandings of humpback whales in Virginia and North Carolina in the early 1990's (Swingle et al. 1993, Barco et al. 2002). The response protocol has since been further developed and is specifically applied to northern right whales (McLellan et al. 2004). During 2008, there were no large whale strandings in Virginia. In 2009, VAQS responded to two humpback whale (*Megaptera novaeangliae*) strandings in Virginia, and one humpback and one northern right whale (*Eubalaena glacialis*) in North Carolina. Overall, there have been 2.5 large whale strandings per year in Virginia since 2000 (Fig. 5C). In addition to strandings, VAQS also responds to large whale entanglements. VAQS staff has been qualified to respond to entangled whales by the Provincetown Center for Coastal Studies in MA. In addition, specialized whale disentanglement gear and supplies are stored at the VAQS Stranding Center for use in the mid-Atlantic region. This equipment and training were essential in the successful disentanglement of a humpback whale in the waters off Virginia Beach in 2007.

Other cetaceans

“Other cetacean” species generally include pelagic delphinids, Kogia species and beaked whales. This group accounted for seven strandings during 2009. These strandings typically occur along the ocean and lower bay shorelines and sometimes involve live animals. In 2009, there were two common dolphins (*Delphinus delphis*), two Risso's dolphins (*Grampus griseus*), two Sowerby's beaked whales (*Mesoplodon bidens*) and one Gervais' beaked whale (*Mesoplodon europaeus*). The Sowerby's beaked whales were the first of their species ever recorded from Virginia.

Pinnipeds

Pinniped strandings have generally increased in Virginia since the early 1990s, and 10 strandings were recorded from Virginia during 2009 (Fig. 3, 5D). The strandings were identified as two harp seals (*Phoca groenlandica*), two gray seals (*Halichoerus grypus*), four harbor seals

(*Phoca vitulina*) and two unidentified seals. Regular sightings of seals in Virginia continue to be common occurrences in winter and early spring. During 2009, there was again a small number of harp seal strandings in Virginia. Harp seals are known as “ice seals” because their normal range and preferred habitats involve offshore pack ice. This raises the question – what are ice seals doing in Virginia? There are no apparent answers to this question as yet, but data being collected by the VAQS Team and others in the stranding network may help to shed light on this phenomenon in the future.

Improved education and training of stranding network personnel have decreased the unwarranted captures of otherwise healthy seals which have hauled-out to rest on Virginia shorelines, piers, jetties and rock islands. Three seals stranded alive and two (one harp seal and one harbor seal) were successfully rehabilitated and released. Seal rescue and rehabilitation efforts continue to represent significant challenges for the VAQS Team and they continue to improve and gain valuable experience and expertise.

SEA TURTLES

2009 was another year of increased levels of sea turtle strandings recorded by VAQS (Table 3). Once again as in 2008, there were high numbers of strandings relative to the previous three years 2005-2007 (Fig. 6). It is important to note that the sea turtle stranding data presented in this report do not reflect the entire state. VIMS stranding data is not included in this report. Since 2000, VAQS has reported both extremely high (460 in 2003) and relatively low (166 in 2006) numbers of sea turtle strandings, with an average of 256 per year (Fig. 6). The VAQS Team responded to 162 sea turtle strandings during the year and an additional 65 strandings were reported by stranding network cooperators trained by VAQS (Table 3). Cooperators' reports are given VASC and VDGIF numbers in the database. VASC reports originated from Chincoteague, Eastern Shore and Back Bay National Wildlife refuges, and also from Kiptopeke and False Cape State Parks. June was the busiest month with 72 strandings, but there were significant numbers of strandings in July, August, September and October, as well (Fig. 7). Loggerheads (*Caretta caretta*, $n = 165$) were the primary species recorded, followed by Kemp's ridleys (*Lepidochelys kempii*, $n = 48$), leatherbacks (*Dermochelys coriacea*, $n = 4$) and greens (*Chelonia mydas*, $n = 10$) (Fig. 8). Because these data reflect only those sea turtle strandings recorded by VAQS and cooperators, the distribution of strandings was primarily along the ocean and lower bay shorelines (Fig. 9). The eastern shore of Virginia was the area where 44% (100) of the sea turtle strandings were found. Accomack County accounted for 18% (41) and Northampton County for 26% (59) of the total. Strandings in Virginia Beach contributed to 41% (93) and Norfolk to 12% (28) of the total.

Improved efforts by VAQS to recruit and train cooperators have greatly enhanced stranding response on the eastern shore. Externally, a number of dead stranded turtles appeared to have been hit by vessels. In some cases, the carcasses were fresh enough to conduct thorough necropsies. Necropsies on stranded turtles sometimes reveal signs of human interaction in the form of fish lures, hooks and line in the gut. This fishing equipment could be from recreational or commercial (long-line) gear and may have been actively fishing or “ghost” gear. Further understanding the impacts that recreational and commercial fishing have on turtles is needed. Lastly, the VAQS Team participated in several research projects with NMFS and USFWS. Flippers were collected from sea turtles for studies on aging, and skin and muscle samples were collected for genetic studies. Live turtles rehabilitated by VAQS were used in tracking studies of post-release movements. Pictures of some of the notable sea turtle strandings in 2009 are

included in Appendix III.

Live strandings

2009 was another busy year for the VAQS Team with 12 live sea turtle strandings from Virginia – two greens, seven loggerheads and three Kemp’s ridleys. Four of these turtles were successfully recovered, rehabilitated and released, and two remained in rehab at the end of the year. In addition, eight loggerheads (3 from NC, 2 from NJ, 2 from MA, 1 from DE), two greens (NC) and two loggerhead/green hybrids (MA) were transferred to the VAQS Stranding Center from other stranding network facilities. During the year, eight loggerheads, one Kemp’s ridley and two loggerhead/green hybrids were released. During the year, the VAQS Team spent many hours medicating and feeding sea turtles. Some of the sea turtles had stranded in the previous year and had been in rehab for many months prior to release. When the year ended, there were six sea turtles in rehab pending release in 2010 (Table 4).

VAQS ACTIVITIES DURING 2009

VAQS conducted trainings on biology, ecology and stranding response protocols for sea turtles and marine mammals during the year. Trainings were provided to Virginia Aquarium Outreach Instructors, VAQS Team volunteers and to other cooperators in the state stranding network including: Back Bay National Wildlife Refuge, Eastern Shore National Wildlife Refuge, Chincoteague National Wildlife Refuge; Virginia Beach police, animal control and beach maintenance personnel; U.S. Coast Guard; Dam Neck and other military base natural resources personnel; personnel from VMRC, VDGIF, and state parks; Nature Conservancy and other natural resources groups. In addition, lectures were presented on the topics of marine mammal and sea turtle necropsies, new findings from sea turtle research, and federal efforts to manage and protect marine mammals. VAQS staff attended numerous conferences and workshops and shared knowledge of sea turtle and marine mammal strandings in Virginia. Educational programs were presented at many local and regional festivals, to school groups and civic organizations as well as during special VAQ events. A portable exhibit was utilized showing the activities of the VAQS and the Virginia stranding network, and promoting conservation of marine animal species and their habitats. A complete list of all professional, education and training activities is included in Appendix I of this report.

Grant funds were used in conjunction with funds from the Virginia Aquarium Foundation to staff the Aquarium’s Marine Animal Care Center with one full-time stranding program coordinator, one veterinary technician, one assistant coordinator/volunteer coordinator and five hourly stranding technicians. The VAQS Team completed another calendar year using an on-call system developed to ensure that volunteers were available for stranding response, seven days per week, for the entire year. Created and managed by volunteer team response leaders, the on-call system greatly enhances the Team’s readiness and rapid response. VAQS Team volunteers logged more than 18,000 hours during 2009.

VAQS continued several research projects that have been ongoing for many years. The 16th annual Dolphin Count was conducted in July. Bottlenose dolphins were recorded by shore-based and boat-based observers along Virginia’s ocean coast. While not a scientific abundance study, the results of the annual dolphin count indicate the importance of Virginia’s coastal waters as habitat for bottlenose dolphins. Photo-identification research on bottlenose dolphins continued for the 21st year. The photo-ID catalog now contains more than 1250 individual dolphins,

some of which are regular visitors to Virginia and have been observed in multiple years. VAQS continued to curate the Mid-Atlantic Humpback Whale Photo-Identification Catalog. Results of matching efforts between the mid-Atlantic catalog and others from the western North Atlantic continues to result in new data about the origin of many whales observed in our area (Barco et al. 2002). The catalog contains images from stranded and live whales observed in coastal waters from New Jersey through North Carolina. VAQS completed a project working with a pound net fisherman in the Chesapeake Bay. The study examined an alternate design for a pound net leader that will reduce or eliminate the accidental entanglement of bottlenose dolphins. VAQS staff continues to conduct advanced necropsies on fresh-dead sea turtles to investigate causes of mortalities and to determine baseline health information for regional populations. Finally, nutritional and growth studies continued with sea turtles in the Virginia Aquarium's long-term and short-term collections.

SUMMARY

Data collected by VAQS and the Virginia stranding network continue to be critical to the long-term monitoring of sea turtle and marine mammal populations. Fresh-stranded cetaceans continue to be extensively sampled as part of a cooperative research project (involving the University of North Carolina at Wilmington, Duke University and the NC State Vet School) to better assess marine mammal health. These types of studies are crucial to developing a better understanding of the overall health status of marine mammal populations in the wild. Stranding records from Virginia indicate that marine mammal strandings, particularly bottlenose dolphins, remain very high and that a significant percentage of the mortalities are related to human activities such as commercial fishing. For this reason, VAQS staff serves as expert members on three federal Take Reduction Teams to reduce the incidental mortalities of marine mammals in commercial fishing operations. The recently enacted changes to the rules regulating pound net leaders, supported by VAQS research efforts, should reduce the incidental takes of dolphins and sea turtles. Sea turtle strandings declined dramatically in 2005-2007, but numbers then rose significantly in 2008 and 2009. Monitoring stranding activity in 2010 should provide further valuable information to help understand if this increase represents a significant trend, or represents only a temporary change. The VAQS continues to work closely to monitor and investigate the high rates of sea turtle strandings on Virginia's eastern shore. In addition, data collected from strandings provides excellent information on life histories of the many species of marine mammals and sea turtles that inhabit Virginia waters. Stranded animals are the only source of this type of scientific information for most species of marine mammals. The sei whale and True's beaked whale strandings in 2003, the melonheaded whale strandings in 2008, and the Sowerby's beaked whale strandings in 2009 provide excellent examples of the unique opportunities that strandings provide to study rare and previously unknown species from Virginia.

The VAQS Stranding Center has increased its role in the rescue and rehabilitation of sea turtles, seals and cetaceans. The high level of live stranding responses continued in 2009, and the need for a fully functional response and rehabilitation facility is clear. VAQS is planning to continue its efforts on behalf of live stranded sea turtles and marine mammals in Virginia and northeastern North Carolina and plans are being developed for a larger and better-equipped marine animal care facility.

Marine mammal and sea turtle strandings in Virginia remained at significantly high levels during 2009. Sea turtles were stranding in increasingly high numbers, and the numbers of

bottlenose dolphin strandings were at record levels. Continued monitoring and reporting of these trends in strandings of protected species will be priorities for the stranding network in 2010.

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Table 1: Marine mammal strandings in Virginia during 2009, n=109.

(Data from the VAQS Marine Mammal Stranding Database)

[Length=cm; * indicates estimated length, ND = no data; CBD = unknown]

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20091001	1/15/2009	harbor seal	Accomack	37.8038	-75.5162	Dead	95	F
VAQS20091002	1/22/2009	Sowerby's beaked whale	Northampton	37.2196	-76.0126	Dead	322	M
VAQS20091003	1/29/2009	harbor seal	Virginia Beach	36.9190	-76.1301	Live	96	F
VAQS20091004	2/14/2009	harbor seal	James City	37.2217	-76.7869	Dead	95	F
VAQS20091005	2/20/2009	harp seal	Accomack	37.8575	-75.3723	Live	90	F
VAQS20091006	2/21/2009	common dolphin	Northampton	37.1059	-75.9771	Dead	224	M
VAQS20091007	2/23/2009	harbor porpoise	Virginia Beach	36.7589	-75.9485	Dead	112	M
VAQS20091008	3/1/2009	harp seal	Virginia Beach	36.7553	-75.9472	Live	98	M
VAQS20091009	3/6/2009	common dolphin	Northampton	37.0824	-75.9622	Dead	203	F
VAQS20091010	3/12/2009	harbor porpoise	Virginia Beach	36.6493	-75.9012	Dead	135	M
VAQS20091011	3/20/2009	bottlenose dolphin	Norfolk	36.9363	-76.2120	Dead	270	F
VAQS20091012	3/25/2009	humpback whale	Accomack	37.9946	-75.2685	Dead	1541	F
VAQS20091013	3/31/2009	harbor porpoise	Accomack	37.7446	-75.5540	Dead	ND	CBD
VAQS20091014	4/10/2009	harbor seal	Hampton	37.0255	-76.2962	Dead	100	F
VAQS20091015	4/13/2009	harbor porpoise	Virginia Beach	36.7070	-75.9286	Dead	130	F
VAQS20091016	4/13/2009	harbor porpoise	Virginia Beach	36.5896	-75.8759	Dead	106	M
VAQS20091017	4/20/2009	harbor porpoise	Virginia Beach	36.8672	-75.9786	Dead	116	M
VAQS20091018	4/21/2009	bottlenose dolphin	Virginia Beach	36.6933	-75.9228	Dead	206	F
VAQS20091019	4/24/2009	Gervais' beaked whale	Accomack	38.0140	-75.2532	Dead	449	F
VAQS20091020	4/28/2009	bottlenose dolphin	Virginia Beach	36.9162	-76.0615	Dead	184	M
VAQS20091021	5/1/2009	bottlenose dolphin	Virginia Beach	36.5615	-75.8699	Dead	162	F
VAQS20091023	5/1/2009	bottlenose dolphin	Northampton	37.1398	-75.9729	Dead	230	CBD
VAQS20091024	5/3/2009	bottlenose dolphin	Virginia Beach	36.6851	-75.9190	Dead	220	M
VAQS20091025	5/3/2009	bottlenose dolphin	Northampton	37.1103	-75.9698	Dead	ND	M
VAQS20091022	5/4/2009	bottlenose dolphin	Northampton	37.1000	-75.9415	Dead	ND	CBD
VAQS20091026	5/5/2009	bottlenose dolphin	Virginia Beach	36.7206	-75.9338	Dead	ND	F
VAQS20091027	5/5/2009	bottlenose dolphin	Virginia Beach	36.7495	-75.9445	Dead	220	F
VAQS20091028	5/6/2009	bottlenose dolphin	Virginia Beach	36.5615	-75.8699	Dead	ND	F
VAQS20091029	5/6/2009	bottlenose dolphin	Virginia Beach	36.6975	-75.9246	Dead	104	M
VAQS20091030	5/6/2009	bottlenose dolphin	Northampton	37.0950	-75.9405	Dead	ND	CBD
VAQS20091031	5/7/2009	bottlenose dolphin	Northampton	37.2184	-76.0125	Dead	ND	CBD
VAQS20091032	5/7/2009	bottlenose dolphin	Northampton	37.0920	-75.9801	Dead	ND	CBD
VAQS20091033	5/8/2009	bottlenose dolphin	Northampton	37.2715	-76.0226	Dead	265	F
VAQS20091034	5/8/2009	bottlenose dolphin	Northampton	37.1686	-76.9877	Dead	265	M
VAQS20091035	5/11/2009	gray seal	Northampton	37.4295	-75.9813	Dead	ND	M
VAQS20091036	5/11/2009	harbor porpoise	Virginia Beach	36.6464	-75.8990	Dead	ND	F
VAQS20091037	5/11/2009	bottlenose dolphin	Virginia Beach	36.8476	-75.9730	Dead	255	F
VAQS20091038	5/11/2009	gray seal	Accomack	37.7241	-75.5584	Dead	ND	CBD
VAQS20091039	5/13/2009	harbor porpoise	Virginia Beach	36.6099	-75.8826	Dead	ND	F
VAQS20091041	5/13/2009	bottlenose dolphin	Virginia Beach	36.9139	-76.0725	Dead	260	F
VAQS20091056	5/14/2009	bottlenose dolphin	Northampton	37.0955	-75.9808	Dead	ND	CBD
VAQS20091049	5/16/2009	bottlenose dolphin	Accomack	37.7490	-75.5503	Dead	ND	CBD
VAQS20091040	5/17/2009	unknown pinniped	Accomack	37.9007	-75.3342	Dead	ND	CBD
VAQS20091042	5/18/2009	bottlenose dolphin	Northampton	37.1546	-75.9764	Dead	101	M
VAQS20091043	5/18/2009	bottlenose dolphin	Virginia Beach	36.9192	-76.0549	Dead	220	F
VAQS20091044	5/18/2009	bottlenose dolphin	Virginia Beach	36.7047	-75.9279	Dead	108	M
VAQS20091045	5/20/2009	bottlenose dolphin	Virginia Beach	36.8587	-75.9761	Dead	199	M
VAQS20091046	5/20/2009	bottlenose dolphin	Hampton	37.0450	-76.2875	Dead	ND	M
VAQS20091047	5/20/2009	bottlenose dolphin	Virginia Beach	36.8968	-75.9888	Dead	89	M
VAQS20091048	5/20/2009	bottlenose dolphin	Northampton	37.3802	-75.9880	Dead	255	F
VAQS20091050	5/21/2009	bottlenose dolphin	Hampton	37.0392	-76.2906	Dead	ND	F
VAQS20091052	5/23/2009	bottlenose dolphin	Virginia Beach	36.7670	-75.9514	Dead	ND	F
VAQS20091053	5/24/2009	bottlenose dolphin	Virginia Beach	36.7245	-75.9350	Dead	ND	CBD
VAQS20091051	5/25/2009	bottlenose dolphin	Northampton	37.2147	-76.0127	Dead	196	F
VAQS20091054	5/25/2009	bottlenose dolphin	Norfolk	36.9299	-76.1792	Dead	100	F
VAQS20091055	5/30/2009	unidentified pinniped	Northampton	37.2198	-75.8084	Dead	ND	CBD

Table 1: Marine Mammal Strandings *cont.*

<u>Field Number</u>	<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20091057	5/30/2009	Risso's dolphin	Accomack	37.9488	-75.3038	Dead	ND	CBD
VAQS20091059	5/30/2009	bottlenose dolphin	Accomack	37.9805	-75.2806	Dead	104	M
VAQS20091058	5/31/2009	bottlenose dolphin	Northampton	37.1486	-75.9760	Dead	103	M
VAQS20091060	6/1/2009	bottlenose dolphin	Northampton	37.2913	-76.0147	Dead	115	CBD
VAQS20091061	6/1/2009	bottlenose dolphin	Accomack	37.6301	-75.6037	Dead	ND	M
VAQS20091062	6/1/2009	bottlenose dolphin	Northampton	37.0852	-75.9787	Dead	ND	CBD
VAQS20091063	6/1/2009	bottlenose dolphin	Northampton	37.0905	-75.9787	Dead	ND	M
VAQS20091064	6/1/2009	bottlenose dolphin	Hampton	37.0012	-76.3046	Dead	ND	CBD
VAQS20091065	6/2/2009	bottlenose dolphin	Northampton	37.1948	-76.0063	Dead	ND	M
VAQS20091066	6/6/2009	bottlenose dolphin	Norfolk	36.9432	-76.3286	Dead	ND	M
VAQS20091067	6/6/2009	bottlenose dolphin	Norfolk	36.9340	-76.2041	Dead	118	M
VAQS20091068	6/6/2009	bottlenose dolphin	Accomack	37.8773	-75.4235	Dead	97	F
VAQS20091069	6/11/2009	bottlenose dolphin	Northampton	37.1979	-76.0091	Dead	ND	CBD
VAQS20091070	6/11/2009	bottlenose dolphin	Northampton	37.2032	-76.0123	Dead	ND	CBD
VAQS20091073	6/11/2009	bottlenose dolphin	Northampton	37.1507	-75.8628	Dead	ND	CBD
VAQS20091071	6/13/2009	bottlenose dolphin	Virginia Beach	36.9221	-76.1378	Dead	ND	CBD
VAQS20091072	6/15/2009	bottlenose dolphin	Northumberland	37.9213	-76.2889	Dead	176	F
VAQS20091076	6/18/2009	bottlenose dolphin	Accomack	37.9439	-75.3470	Live	189	M
VAQS20091074	6/26/2009	bottlenose dolphin	Virginia Beach	36.5909	-75.8767	Dead	270	M
VAQS20091075	7/4/2009	bottlenose dolphin	Virginia Beach	36.7823	-75.9567	Dead	276	M
VAQS20091078	7/9/2009	bottlenose dolphin	Northampton	37.1524	-75.8609	Dead	ND	CBD
VAQS20091079	7/9/2009	bottlenose dolphin	Mathews	37.3119	-76.2793	Dead	175	CBD
VAQS20091077	7/10/2009	bottlenose dolphin	Suffolk	36.9375	-76.4950	Dead	143	M
VAQS20091080	7/20/2009	bottlenose dolphin	Hampton	37.0470	-76.2869	Dead	107	M
VAQS20091081	7/21/2009	unidentified cetacean	Mathews	37.4105	-76.2504	Dead	ND	CBD
VAQS20091082	7/22/2009	unidentified cetacean	Accomack	37.7716	-75.5373	Dead	ND	CBD
VAQS20091083	7/30/2009	bottlenose dolphin	Northampton	37.1540	-75.9500	Dead	235	F
VAQS20091084	8/10/2009	bottlenose dolphin	Northampton	37.1541	-75.9763	Dead	255	CBD
VAQS20091085	8/10/2009	bottlenose dolphin	Northampton	37.1466	-75.9749	Dead	165	CBD
VAQS20091086	8/16/2009	bottlenose dolphin	Virginia Beach	36.9172	-75.9835	Dead	128	F
VAQS20091087	8/18/2009	bottlenose dolphin	Virginia Beach	36.9270	-76.0460	Dead	201	F
VAQS20091088	8/18/2009	bottlenose dolphin	Northampton	37.1884	-76.0075	Dead	244	M
VAQS20091089	8/21/2009	bottlenose dolphin	Virginia Beach	37.0881	-75.9768	Dead	144	M
VAQS20091090	8/22/2009	bottlenose dolphin	Virginia Beach	36.9091	-76.0887	Dead	126	M
VAQS20091091	8/30/2009	bottlenose dolphin	Virginia Beach	36.8205	-75.9672	Dead	ND	F
VAQS20091092	8/31/2009	bottlenose dolphin	Virginia Beach	36.9148	-76.0667	Dead	185	F
VAQS20091093	8/31/2009	bottlenose dolphin	Virginia Beach	36.9152	-76.0649	Dead	196	F
VAQS20091094	9/3/2009	bottlenose dolphin	Virginia Beach	36.6472	-75.8987	Dead	199	F
VAQS20091095	9/5/2009	bottlenose dolphin	Virginia Beach	36.7762	-75.9549	Dead	260	M
VAQS20091096	9/6/2009	bottlenose dolphin	Virginia Beach	36.9241	-76.0557	Dead	204	M
VAQS20091097	9/11/2009	bottlenose dolphin	Virginia Beach	36.9170	-76.0599	Dead	220	F
VAQS20091098	9/11/2009	bottlenose dolphin	Virginia Beach	36.9165	-76.0605	Dead	211	M
VAQS20091099	9/15/2009	bottlenose dolphin	Virginia Beach	36.9318	-76.0329	Dead	197	F
VAQS20091100	9/16/2009	bottlenose dolphin	Accomack	37.9914	-75.2708	Dead	203	CBD
VAQS20091101	9/21/2009	bottlenose dolphin	Virginia Beach	36.7278	-75.9364	Dead	234	M
VAQS20091102	9/26/2009	humpback whale	Gloucester	37.2649	-76.4150	Dead	815	F
VAQS20091103	10/11/2009	bottlenose dolphin	Hampton	37.0144	-76.3421	Dead	181	M
VAQS20091104	10/30/2009	bottlenose dolphin	Norfolk	36.9592	-76.2577	Dead	105	M
VAQS20091105	10/31/2009	bottlenose dolphin	Virginia Beach	36.8337	-75.9717	Dead	270	M
VAQS20091106	11/1/2009	bottlenose dolphin	Virginia Beach	36.9196	-76.0541	Dead	113	M
VAQS20091107	11/8/2009	Sowerby's beaked whale	Hampton	37.0551	-76.2837	Dead	397	M
VAQS20091108	11/18/2009	Risso's dolphin	Virginia Beach	36.8294	-75.9693	Dead	290	M
VAQS20091109	11/22/2009	bottlenose dolphin	Virginia Beach	36.6087	-75.8823	Dead	210	M

Table 2: Live stranded marine mammals handled by VAQS in 2009.

<u>Field Number</u>	<u>Species</u>	<u>Strand Date</u>	<u>State</u>	<u>Final Disposition</u>
CALO0901	right whale	1/26/2009	NC	Euthanized 30 Jan 2009
VAQS20091003	harbor seal	1/29/2009	VA	Released 1 March 2009 from Virginia Beach, VA
MDB029	harbor seal	2/10/2009	NC	Died 10 Feb 2009
KLC031 *	harbor seal	2/15/2009	NC	Died 20 Feb 2009
VAQS20091005	harp seal	2/20/2009	VA	Died 3 Feb 2009
VAQS20091008	harp seal	3/1/2009	VA	Released 31 March 2009 from First Landing State Park, VA
KLC038	Gervais beaked whale	4/23/2009	NC	Died 23 April 2009
VAQS20091076	bottlenose dolphin	6/25/2009	VA	Euthanized 8 July 2009
KLC051	pygmy sperm whale	8/23/2009	NC	Euthanized 23 Aug 2009

* Transferred to National Aquarium in Baltimore, Baltimore, MD

Table 3: Virginia sea turtle strandings recorded by VAQS and cooperators (VASC, VDGIF) in 2009, n=227. (Data from the VAQS Sea Turtle Stranding Database)

[Length = carapace length notch to tip cm; * = estimate; ND = no data; U = unknown]

<u>FIELD #</u>	<u>DATE</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20092001	1/29/09	loggerhead	Northampton	37.3301	-76.0141	Dead	ND	U
VDGIF2009001	4/23/09	loggerhead	Accomack	37.7147	-75.5727	Dead	ND	U
VAQS20092002	5/18/09	Kemp's ridley	Virginia Beach	36.9299	-76.0425	Dead	42	M
VAQS20092003	5/19/09	loggerhead	Norfolk	36.9385	-76.2201	Dead	72	F
VAQS20092004	5/23/09	loggerhead	Virginia Beach	36.9100	-76.0993	Dead	77	F
VASC20092001	5/23/09	Kemp's ridley	Northampton	37.0865	-75.9753	Dead	35	M
VAQS20092005	5/26/09	Kemp's ridley	Virginia Beach	36.9028	-75.9885	Dead	35	F
VAQS20092006	5/28/09	loggerhead	Virginia Beach	36.7879	-75.9585	Dead	97	U
VAQS20092007	5/28/09	loggerhead	Virginia Beach	36.8291	-75.9689	Dead	67	U
VAQS20092008	5/28/09	loggerhead	Virginia Beach	36.7958	-75.9608	Dead	64	M
VAQS20092009	5/28/09	Kemp's ridley	Virginia Beach	36.8181	-75.9669	Dead	39	F
VASC20092002	5/29/09	loggerhead	Accomack	37.9664	-75.2906	Dead	72	U
VASC20092003	5/29/09	loggerhead	Accomack	37.9420	-75.3083	Dead	81	U
VAQS20092010	5/30/09	loggerhead	Norfolk	36.9401	-76.2236	Dead	83	F
VAQS20092011	5/30/09	Kemp's ridley	Virginia Beach	36.6626	-75.9069	Dead	43	M
VASC20092004	5/30/09	loggerhead	Accomack	37.8898	-75.3410	Dead	59	U
VAQS20092012	5/31/09	loggerhead	Virginia Beach	36.5988	-75.8788	Dead	73	F
VAQS20092013	6/1/09	Kemp's ridley	Virginia Beach	36.7224	-75.9340	Dead	34	F
VASC20092008	6/1/09	loggerhead	Accomack	37.6758	-75.5907	Dead	ND	U
VAQS20092014	6/2/09	loggerhead	Hampton	37.0097	-76.3002	Dead	97	F
VASC20092005	6/2/09	leatherback	Northampton	37.0872	-75.9764	Dead	148	U
VASC20092006	6/2/09	Kemp's ridley	Northampton	37.1079	-75.9726	Dead	22	U
VDGIF2009002	6/2/09	loggerhead	Northampton	37.1621	-75.8505	Dead	ND	U
VDGIF2009003	6/2/09	loggerhead	Northampton	37.1626	-75.8499	Dead	ND	U
VASC20092007	6/3/09	loggerhead	Accomack	37.8549	-75.3883	Dead	80	F
VAQS20092015	6/4/09	loggerhead	Virginia Beach	36.9295	-76.1732	Dead	73	F
VAQS20092016	6/6/09	loggerhead	Virginia Beach	36.6851	-75.9189	Dead	ND	U
VAQS20092017	6/6/09	loggerhead	Norfolk	36.4336	-76.2027	Dead	ND	U
VAQS20092018	6/6/09	loggerhead	Virginia Beach	36.8081	-75.9642	Dead	65	U
VASC20092012	6/6/09	loggerhead	Accomack	37.7239	-75.5698	Dead	ND	U
VDGIF2009005	6/7/09	loggerhead	Accomack	37.5767	-75.6092	Dead	ND	F
VAQS20092019	6/8/09	loggerhead	Virginia Beach	36.9006	-75.9877	Dead	107	F
VASC20092009	6/8/09	loggerhead	Accomack	37.9417	-75.3085	Dead	75	U
VASC20092010	6/8/09	loggerhead	Accomack	37.8311	-75.4898	Dead	ND	U
VASC20092011	6/8/09	green	Northampton	37.1026	-75.9446	Dead	33	U
VAQS20092020	6/9/09	leatherback	Virginia Beach	36.9226	-75.9974	Dead	160	F
VAQS20092021	6/9/09	loggerhead	Northampton	37.0849	-75.0950	Dead	64	F
VAQS20092022	6/9/09	loggerhead	Northampton	37.0842	-75.9520	Dead	80	F
VAQS20092023	6/9/09	loggerhead	Northampton	37.0927	-75.9803	Dead	79	F
VASC20092013	6/9/09	Kemp's ridley	Accomack	37.8604	-75.3898	Dead	31	U
VAQS20092024	6/10/09	Kemp's ridley	Virginia Beach	36.8429	-75.9719	Dead	34	M
VAQS20092025	6/10/09	loggerhead	Norfolk	36.9601	-76.2594	Dead	ND	U
VAQS20092026	6/10/09	loggerhead	Virginia Beach	36.7698	-75.9113	Dead	56	F
VDGIF2009004	6/10/09	loggerhead	Accomack	37.5949	-75.6458	Dead	ND	F
VAQS20092027	6/11/09	loggerhead	Virginia Beach	36.9281	-76.0439	Dead	73	M
VAQS20092028	6/11/09	Kemp's ridley	Northampton	37.1497	-75.9751	Dead	33	F
VASC20092019	6/11/09	loggerhead	Northampton	37.1264	-75.8875	Dead	ND	U
VDGIF2009006	6/13/09	loggerhead	Accomack	37.6934	-75.5814	Dead	ND	M
VAQS20092029	6/14/09	loggerhead	Virginia Beach	36.9158	-76.0626	Dead	ND	U
VAQS20092030	6/14/09	Kemp's ridley	Virginia Beach	36.7640	-75.9504	Dead	33	F
VAQS20092031	6/14/09	loggerhead	Virginia Beach	36.8479	-75.9731	Dead	59	M
VAQS20092032	6/14/09	loggerhead	Virginia Beach	36.9321	-76.0335	Dead	ND	M
VASC20092014	6/14/09	loggerhead	Accomack	37.8539	-75.3756	Dead	88	U
VAQS20092033	6/15/09	loggerhead	Virginia Beach	36.7725	-75.9533	Dead	75	U
VAQS20092034	6/15/09	loggerhead	Virginia Beach	36.7304	-75.9370	Dead	ND	U

Table 3: Sea Turtle Strandings *cont.*

<u>FIELD #</u>	<u>DATE</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20092035	6/15/09	Kemp's ridley	Virginia Beach	36.8596	-75.9768	Dead	29	F
VASC20092015	6/15/09	loggerhead	Accomack	37.7981	-75.5193	Dead	75	U
VASC20092017	6/15/09	loggerhead	Northampton	37.3543	-75.7285	Dead	ND	U
VASC20092018	6/15/09	loggerhead	Northampton	37.3051	-75.8075	Dead	ND	U
VAQS20092036	6/16/09	loggerhead	Virginia Beach	36.7803	-75.9560	Dead	56	U
VAQS20092037	6/16/09	Kemp's ridley	Virginia Beach	36.5750	-75.8728	Dead	50	U
VASC20092020	6/16/09	loggerhead	Accomack	37.8142	-75.5059	Dead	58	U
VAQS20092038	6/19/09	loggerhead	Virginia Beach	36.8035	-75.9630	Dead	63	F
VAQS20092039	6/19/09	loggerhead	Virginia Beach	36.8821	-75.9831	Dead	ND	U
VASC20092016	6/19/09	loggerhead	Norfolk	36.9330	-76.1984	Dead	79	M
VDGIF2009007	6/19/09	loggerhead	Accomack	37.7462	-75.5523	Dead	ND	M
VAQS20092040	6/21/09	loggerhead	Virginia Beach	36.8542	-75.9747	Live	55	F
VASC20092021	6/22/09	loggerhead	Accomack	37.8698	-75.3589	Dead	66	U
VAQS20092041	6/23/09	loggerhead	Virginia Beach	36.8567	-75.9756	Dead	71	M
VAQS20092042	6/23/09	loggerhead	Virginia Beach	36.8049	-75.9633	Dead	69	U
VAQS20092043	6/23/09	loggerhead	Virginia Beach	36.9321	-76.0339	Dead	70	U
VASC20092022	6/23/09	loggerhead	Accomack	37.8688	-75.3729	Dead	59	U
VASC20092023	6/23/09	loggerhead	Accomack	37.8066	-75.5126	Dead	ND	U
VAQS20092044	6/24/09	loggerhead	Virginia Beach	36.8306	-75.9685	Dead	100	M
VASC20092024	6/24/09	loggerhead	Accomack	37.8584	-75.3895	Dead	68	U
VAQS20092045	6/26/09	loggerhead	Northampton	37.2051	-76.0123	Dead	70	U
VAQS20092046	6/26/09	loggerhead	Norfolk	36.9627	-76.2587	Live	66	U
VASC20092032	6/26/09	loggerhead	Accomack	37.8816	-75.3493	Dead	54	U
VAQS20092047	6/27/09	green	Norfolk	36.8576	-76.3068	Dead	38	U
VAQS20092048	6/27/09	loggerhead	Virginia Beach	36.6199	-75.8866	Dead	76	U
VASC20092025	6/27/09	loggerhead	Accomack	37.8767	-75.3527	Dead	49	U
VASC20092026	6/27/09	loggerhead	Accomack	37.8770	-75.3522	Dead	62	U
VAQS20092049	6/28/09	Kemp's ridley	Virginia Beach	36.9193	-76.0543	Dead	21	F
VAQS20092050	6/28/09	loggerhead	Norfolk	36.9627	-76.2587	Live	54	U
VASC20092027	6/28/09	Kemp's ridley	Accomack	37.8828	-75.3489	Dead	33	U
VASC20092028	6/28/09	loggerhead	Accomack	37.8828	-75.3489	Dead	ND	U
VASC20092029	6/29/09	loggerhead	Accomack	37.8696	-75.3593	Dead	46	M
VASC20092030	6/29/09	loggerhead	Accomack	37.8779	-75.3517	Dead	53	U
VASC20092031	6/30/09	Kemp's ridley	Accomack	37.8790	-75.3502	Dead	37	U
VAQS20092051	7/1/09	loggerhead	Virginia Beach	36.9174	-76.0588	Dead	65	M
VAQS20092053	7/1/09	Kemp's ridley	Northampton	37.1808	-75.9929	Dead	27	U
VAQS20092052	7/2/09	Kemp's ridley	Newport News	36.9973	-76.4678	Dead	49	U
VAQS20092054	7/3/09	green	Virginia Beach	36.9154	-76.0640	Live	24	M
VAQS20092055	7/3/09	Kemp's ridley	Virginia Beach	36.9107	-76.1025	Dead	28	F
VASC20092034	7/3/09	Kemp's ridley	Accomack	37.8728	-75.3563	Dead	23	U
VASC20092033	7/4/09	loggerhead	Accomack	37.8607	-75.0900	Dead	66	U
VAQS20092057	7/6/09	loggerhead	Virginia Beach	36.9265	-76.1590	Dead	57	F
VAQS20092058	7/6/09	loggerhead	Virginia Beach	36.7501	-75.9451	Dead	87	M
VAQS20092056	7/7/09	loggerhead	Norfolk	36.9617	-76.2622	Dead	59	U
VAQS20092059	7/11/09	loggerhead	Virginia Beach	36.8340	-75.9694	Dead	ND	U
VASC20092035	7/11/09	loggerhead	Accomack	37.7878	-75.5266	Dead	76	U
VAQS20092060	7/12/09	loggerhead	Virginia Beach	36.7967	-75.9609	Dead	111	F
VASC20092036	7/12/09	loggerhead	Accomack	37.7956	-75.5212	Dead	95	U
VASC20092037	7/12/09	loggerhead	Accomack	37.8667	-75.3619	Dead	ND	U
VAQS20092061	7/13/09	loggerhead	Virginia Beach	36.6673	-75.9092	Dead	106	M
VAQS20092063	7/15/09	Kemp's ridley	Norfolk	36.9388	-76.2203	Dead	43	U
VAQS20092064	7/16/09	loggerhead	Virginia Beach	36.8077	-75.9640	Dead	95	M
VASC20092038	7/16/09	loggerhead	Virginia Beach	36.6681	-75.9096	Dead	65	U
VAQS20092062	7/18/09	loggerhead	Virginia Beach	36.8295	-75.9692	Dead	105	M
VAQS20092065	7/23/09	green	Norfolk	36.9335	-76.2016	Dead	33	U

Table 3: Sea Turtle Strandings *cont.*

<u>FIELD #</u>	<u>DATE</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20092066	7/24/09	loggerhead	Northampton	37.1700	-75.9871	Dead	62	M
VAQS20092067	7/24/09	loggerhead	Northampton	37.1701	-75.9872	Dead	59	U
VAQS20092068	7/26/09	loggerhead	Northampton	37.2388	-76.0161	Dead	59	U
VASC20092039	7/26/09	loggerhead	Accomack	37.9842	-75.2763	Dead	ND	U
VASC20092040	7/26/09	loggerhead	Northampton	37.0941	-75.9808	Dead	ND	U
VASC20092041	7/26/09	loggerhead	Northampton	37.0854	-75.9742	Dead	ND	U
VAQS20092069	7/27/09	loggerhead	Northampton	37.2498	-76.0222	Dead	ND	U
VAQS20092070	7/28/09	loggerhead	Northampton	37.1733	-75.9882	Dead	56	U
VAQS20092071	7/29/09	loggerhead	Northampton	37.1368	-75.9723	Dead	81	U
VAQS20092072	7/29/09	loggerhead	Northampton	37.1475	-75.9747	Dead	101	U
VAQS20092073	7/29/09	Kemp's ridley	Northampton	37.1670	-75.9870	Dead	35	U
VASC20092042	7/29/09	loggerhead	Northampton	37.0874	-75.9768	Dead	ND	U
VAQS20092074	7/30/09	loggerhead	Northampton	37.1380	-75.9725	Dead	61	U
VAQS20092075	7/31/09	loggerhead	Northampton	37.1613	-75.9800	Dead	74	U
VAQS20092076	7/31/09	loggerhead	Northampton	37.1582	-75.9787	Dead	ND	U
VASC20092043	7/31/09	loggerhead	Northampton	37.0849	-75.9697	Dead	ND	U
VASC20092044	8/2/09	loggerhead	Accomack	37.8551	-75.3881	Dead	ND	U
VAQS20092077	8/4/09	loggerhead	Portsmouth	36.9130	-76.4408	Live	57	F
VAQS20092078	8/6/09	Kemp's ridley	Norfolk	36.9070	-76.3070	Dead	22	M
VAQS20092080	8/6/09	loggerhead	Northampton	37.0887	-75.9776	Dead	ND	U
VAQS20092079	8/7/09	loggerhead	Northampton	37.0839	-75.9707	Dead	ND	U
VAQS20092081	8/8/09	loggerhead	Northampton	37.1134	-75.9736	Dead	75	M
VAQS20092082	8/8/09	loggerhead	Northampton	37.1660	-75.9874	Dead	57	U
VAQS20092083	8/8/09	loggerhead	Norfolk	36.9412	-76.3308	Dead	77	U
VAQS20092085	8/8/09	loggerhead	Northampton	37.1985	-76.0095	Dead	ND	U
VAQS20092084	8/9/09	loggerhead	Northampton	37.1689	-75.9875	Dead	65	M
VAQS20092086	8/10/09	Kemp's ridley	Northampton	37.2403	-75.8125	Dead	21	U
VAQS20092087	8/11/09	loggerhead	Virginia Beach	36.6944	-75.9218	Live	63	U
VAQS20092088	8/12/09	loggerhead	Northampton	37.1278	-75.9698	Dead	82	U
VAQS20092089	8/14/09	loggerhead	Northampton	37.2016	-76.0456	Dead	77	F
VAQS20092090	8/15/09	green	Virginia Beach	36.7209	-75.9333	Dead	25	F
VAQS20092091	8/15/09	loggerhead	Virginia Beach	36.6677	-75.9093	Dead	64	F
VAQS20092092	8/15/09	loggerhead	Virginia Beach	36.8212	-75.9677	Dead	ND	U
VASC20092045	8/15/09	loggerhead	Northampton	37.0878	-75.9764	Dead	74	U
VAQS20092093	8/16/09	loggerhead	Virginia Beach	36.5571	-75.8693	Dead	82	F
VAQS20092094	8/16/09	loggerhead	Virginia Beach	36.8301	-75.9690	Live	68	F
VAQS20092096	8/20/09	loggerhead	Northampton	37.1330	-75.9711	Dead	75	U
VAQS20092097	8/21/09	loggerhead	Northampton	37.0872	-75.9757	Dead	58	F
VAQS20092098	8/21/09	loggerhead	Northampton	37.0857	-75.9646	Dead	50	U
VAQS20092095	8/22/09	loggerhead	Northampton	37.2492	-76.0196	Dead	ND	F
VAQS20092099	8/25/09	loggerhead	Virginia Beach	36.5585	-75.8692	Dead	64	U
VASC20092046	8/27/09	loggerhead	Accomack	37.9414	-75.3086	Dead	71	U
VAQS20092100	8/29/09	loggerhead	Virginia Beach	36.9129	-76.0789	Dead	67	M
VASC20092047	9/1/09	loggerhead	Norfolk	36.9335	-76.2015	Dead	70	M
VASC20092048	9/1/09	green	Norfolk	36.9334	-76.2012	Dead	27	M
VAQS20092101	9/3/09	loggerhead	Virginia Beach	36.7619	-75.9493	Dead	75	F
VAQS20092102	9/3/09	loggerhead	Virginia Beach	36.7073	-75.9285	Dead	79	M
VAQS20092103	9/7/09	leatherback	Virginia Beach	36.8229	-75.9677	Dead	ND	U
VAQS20092104	9/7/09	Kemp's ridley	Norfolk	36.9627	-76.2587	Live	24	U
VAQS20092105	9/9/09	loggerhead	Virginia Beach	36.7781	-75.9555	Dead	71	U
VAQS20092106	9/9/09	Kemp's ridley	Norfolk	36.9310	-76.1878	Dead	33	F
VAQS20092107	9/9/09	loggerhead	Norfolk	36.9303	-76.1852	Dead	ND	U
VAQS20092108	9/10/09	Kemp's ridley	Virginia Beach	36.5543	-75.8687	Dead	29	M
VAQS20092109	9/11/09	loggerhead	Virginia Beach	36.9111	-75.9902	Dead	96	F
VAQS20092110	9/12/09	loggerhead	Northampton	37.1232	-75.9695	Dead	62	M

Table 3: Sea Turtle Strandings *cont.*

<u>FIELD #</u>	<u>DATE</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20092111	9/13/09	Kemp's ridley	Virginia Beach	36.8912	-76.0789	Dead	49	M
VAQS20092112	9/13/09	loggerhead	Virginia Beach	36.9318	-76.0254	Dead	85	M
VAQS20092113	9/13/09	Kemp's ridley	Northampton	37.3595	-75.9926	Dead	56	U
VAQS20092114	9/15/09	Kemp's ridley	Northampton	37.1378	-75.9830	Dead	29	U
VASC20092049	9/15/09	loggerhead	Accomack	37.8782	-75.3513	Dead	ND	M
VASC20092050	9/16/09	Kemp's ridley	Northampton	37.0976	-75.9806	Dead	31	U
VAQS20092115	9/17/09	loggerhead	Virginia Beach	36.9086	-76.0893	Dead	85	F
VAQS20092116	9/17/09	Kemp's ridley	Norfolk	36.9607	-76.2607	Dead	27	U
VASC20092053	9/17/09	green	Norfolk	36.9618	-76.2628	Dead	ND	U
VAQS20092117	9/18/09	loggerhead	Norfolk	36.9382	-76.2185	Dead	ND	F
VAQS20092118	9/19/09	Kemp's ridley	Virginia Beach	36.9274	-76.0056	Dead	26	U
VAQS20092119	9/19/09	Kemp's ridley	Northampton	37.1571	-75.9775	Dead	27	U
VAQS20092120	9/21/09	loggerhead	Virginia Beach	36.6951	-75.9236	Dead	92	M
VASC20092051	9/21/09	loggerhead	Northampton	37.1341	-75.9715	Dead	ND	U
VAQS20092121	9/22/09	Kemp's ridley	Virginia Beach	36.7605	-75.9493	Dead	50	M
VAQS20092130	9/23/09	loggerhead	Hampton	37.0384	-76.2908	Dead	ND	F
VASC20092052	9/23/09	leatherback	Accomack	37.8584	-75.3695	Dead	115	U
VASC20092054	9/23/09	loggerhead	Northampton	37.0964	-75.9810	Dead	ND	U
VAQS20092122	9/24/09	Kemp's ridley	Northampton	37.1639	-75.9827	Dead	29	U
VAQS20092123	9/26/09	loggerhead	Virginia Beach	36.6397	-75.8949	Dead	ND	U
VAQS20092124	9/26/09	loggerhead	Virginia Beach	36.6782	-75.9156	Dead	86	U
VAQS20092125	9/27/09	Kemp's ridley	Northampton	37.1442	-75.9813	Dead	28	F
VAQS20092126	9/29/09	loggerhead	Northampton	37.2790	-76.0133	Dead	93	U
VASC20092055	9/29/09	Kemp's ridley	Accomack	37.8905	-75.3406	Dead	25	U
VAQS20092127	10/1/09	loggerhead	Virginia Beach	36.5520	-76.0325	Dead	75	U
VASC20092056	10/1/09	loggerhead	Northampton	37.0864	-75.9755	Dead	ND	U
VAQS20092128	10/3/09	loggerhead	Virginia Beach	36.6771	-75.9146	Dead	78	U
VAQS20092129	10/7/09	Kemp's ridley	Virginia Beach	36.9137	-75.9916	Dead	29	M
VAQS20092131	10/11/09	Kemp's ridley	Norfolk	36.9301	-76.1820	Dead	29	F
VAQS20092132	10/11/09	loggerhead	Norfolk	36.9358	-76.2108	Dead	ND	U
VAQS20092133	10/13/09	Kemp's ridley	Virginia Beach	36.6677	-75.9094	Dead	29	F
VAQS20092134	10/13/09	loggerhead	Virginia Beach	36.3811	-75.5359	Dead	ND	U
VAQS20092135	10/13/09	loggerhead	Virginia Beach	36.9118	-76.0840	Dead	90	F
VAQS20092136	10/14/09	loggerhead	Virginia Beach	36.9182	-76.0571	Dead	60	U
VAQS20092137	10/16/09	loggerhead	Virginia Beach	36.8665	-75.9785	Dead	116	M
VAQS20092138	10/16/09	loggerhead	Virginia Beach	36.9136	-76.1131	Dead	59	F
VAQS20092139	10/16/09	loggerhead	Virginia Beach	36.9293	-76.1733	Dead	84	U
VAQS20092140	10/16/09	loggerhead	Norfolk	36.9293	-76.1862	Dead	62	M
VAQS20092141	10/17/09	Kemp's ridley	Virginia Beach	36.9250	-76.0478	Dead	27	U
VAQS20092142	10/19/09	loggerhead	Virginia Beach	36.9140	-76.0600	Dead	ND	U
VAQS20092143	10/21/09	loggerhead	Newport News	36.9621	-76.3989	Dead	62	F
VASC20092057	10/23/09	loggerhead	Accomack	37.8750	-75.3525	Dead	60	U
VAQS20092144	10/26/09	loggerhead	Virginia Beach	36.9188	-76.1290	Dead	68	F
VAQS20092145	10/27/09	loggerhead	Virginia Beach	36.9125	-76.0802	Live	68	F
VAQS20092146	10/28/09	Kemp's ridley	Virginia Beach	36.9251	-76.0013	Dead	ND	U
VAQS20092147	10/30/09	loggerhead	Norfolk	36.9592	-76.2577	Dead	73	F
VAQS20092148	10/30/09	loggerhead	Virginia Beach	36.6921	-75.9224	Dead	65	M
VAQS20092149	10/31/09	green	Northampton	37.1939	-76.0051	Dead	34	M
VAQS20092150	10/31/09	Kemp's ridley	Virginia Beach	36.6246	-75.8885	Dead	26	M
VAQS20092151	11/2/09	loggerhead	Virginia Beach	36.9287	-76.1708	Dead	ND	M
VAQS20092152	11/3/09	loggerhead	Norfolk	36.9613	-76.2616	Dead	61	F
VAQS20092153	11/3/09	loggerhead	Virginia Beach	36.9287	-76.1713	Dead	65	F
VAQS20092154	11/4/09	Kemp's ridley	Norfolk	36.9339	-76.2032	Dead	39	F
VAQS20092155	11/6/09	loggerhead	Norfolk	36.9330	-76.1992	Dead	73	F
VAQS20092156	11/13/09	loggerhead	Virginia Beach	36.6767	-75.9148	Dead	73	M

Table 3: Sea Turtle Strandings *cont.*

<u>FIELD #</u>	<u>DATE</u>	<u>Species</u>	<u>Location</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Condition</u>	<u>Length</u>	<u>Sex</u>
VAQS20092157	11/14/09	loggerhead	Northampton	37.4154	-75.9775	Dead	ND	U
VASC20092058	11/16/09	green	Northampton	37.1043	-75.9783	Dead	29	U
VAQS20092158	11/20/09	Kemp's ridley	Virginia Beach	36.9159	-76.0621	Live	21	U
VAQS20092159	11/26/09	loggerhead	Virginia Beach	36.8881	-75.9849	Dead	67	M
VAQS20092160	12/23/09	Kemp's ridley	Virginia Beach	36.7253	-75.9354	Live	24	U
VAQS20092161	12/23/09	green	Newport News	36.9649	-76.4127	Live	31	U
VAQS20092162	12/26/09	Kemp's ridley	Virginia Beach	36.6676	-75.9092	Dead	24	U

Table 4: Live stranded sea turtles handled by VAQS in 2009.

<u>Field Number</u>	<u>Species</u>	<u>Name</u>	<u>Strand Date</u>	<u>State</u>	<u>Final Disposition</u>
ST02-201 *a	Cc/Cm	Hagrid	11/30/2002	MA	Released 17 May 2009 from Moorehead City, North Carolina
ST02-254 *a	Cc/Cm	Dumbledor	12/8/2002	MA	Released 17 May 2009 from Moorehead City, North Carolina
VAQS20082129	Cm	Kermit	9/20/2008	VA	Released 22 June 2009 from Virginia Beach, Virginia
VAQS20082170	Cc	Pugsley Adams	10/29/2008	VA	Released 1 February 2009 from offshore North Carolina
MPP-08-11-19-01 *e	Cc	John Gobbler	11/19/2008	NC	Released 1 February 2009 from offshore North Carolina
NMLC CC 08-019 *b	Cc	Fletcher	11/29/2008	MA	Released 17 May 2009 from offshore North Carolina
MARC08-125 *c	Cc	Oogway	11/29/2008	MA	Released 5 April 2009 from offshore North Carolina
VAQS20082184	Cc	Hollywood	12/31/2008	VA	Released 5 April 2009 from offshore North Carolina
NMFS-04June09-01	Cc	Oscar the Grouch	6/4/2009	DE	Died 7 June 2009
VAQS20092040	Cc	N/A	6/21/2009	VA	Euthanized 21 June 2009
VAQS20092046	Cc	Sally	6/26/2009	VA	Released 14 July 2009 from Norfolk, Virginia
VAQS20092050	Cc	Lil John	6/28/2009	VA	Released 11 Aug 2009 from Norfolk, Virginia
VAQS20092054	Cm	N/A	7/3/2009	VA	Euthanized 3 July 2009
MMSC-09-113 *d	Cc	Jersey George	8/1/2009	NJ	Pending
VAQS20092077	Cc	Douchas	8/4/2009	VA	Died 5 August 2009
VAQS20092087	Cc	Silva	8/11/2009	VA	Released 16 Sept 2009 from Virginia Beach, Virginia
VAQS20092094	Cc	Ole Gino	8/16/2009	VA	Died 21 August 2009
MMSC-09-123 *d	Cc	Danni Tectonic	8/29/2009	NJ	Pending
VAQS20092104	Lk	Ripple	9/7/2009	VA	Released 29 Oct 2009 from Carterette Co., North Carolina
Cc-MPP-09-10-26-01 *e	Cc	Pay Pal	10/26/2009	NC	Released 28 Jan 2010 from offshore North Carolina
VAQS20092145	Cc	N/A	10/27/2009	VA	Died 28 October 2009
VAQS20092158	Lk	Stormin' Norman	11/20/2009	VA	Pending
Cc-MPP-09-12-22-01 *e	Cc	Visa	12/22/2009	NC	Released 28 Jan 2010 from offshore North Carolina
Cc-FGW-09-12-22-09 *e	Cc	AmEx	12/22/2009	NC	Released 28 Jan 2010 from offshore North Carolina
Cm-FGW-09-12-22-05 *e	Cm	Discover	12/22/2009	NC	Pending
Cm-FGW-09-12-22-06 *e	Cm	Mastercard	12/22/2009	NC	Pending
VAQS20092160	Lk	Kalikimaka	12/23/2009	VA	Pending
VAQS20092161	Cm	Popsicle	12/23/2009	VA	Pending

(*a) = transferred from Columbus Zoo, Powell, OH for release

(*b) = transferred from National Marine Life Center, Bourne, MA for release

(*c) = transferred from University of New England Marine Animal Rehabilitation Center, Biddeford, ME for rehabilitation

(*d) = transferred from Marine Mammal Stranding Center, Brigantine, NJ for rehabilitation

(*e) = transferred from North Carolina Aquarium at Roanoke Island, Manteo, NC for rehabilitation

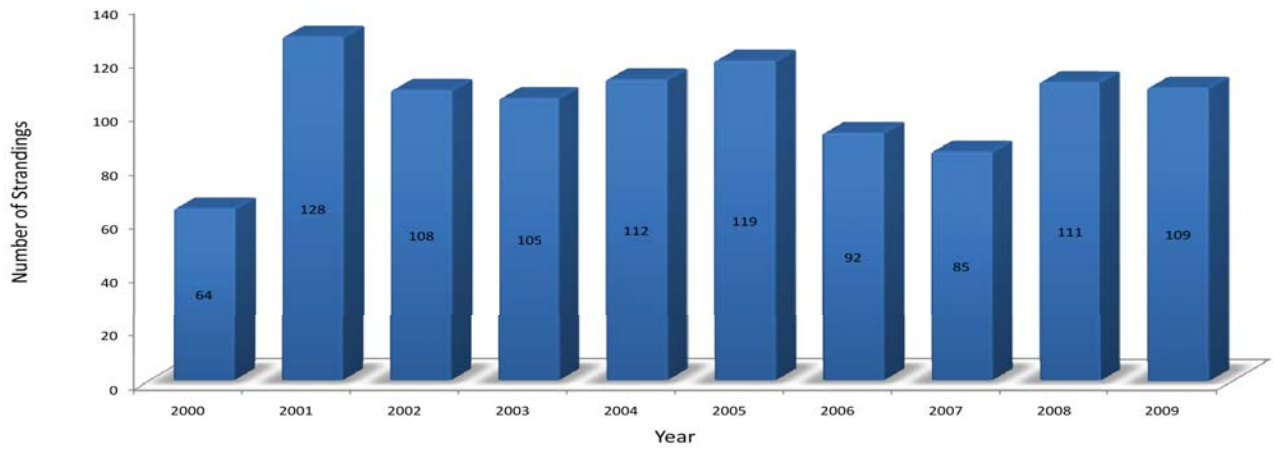


Figure 1: Yearly frequency of marine mammal strandings in Virginia, 2000-2009.

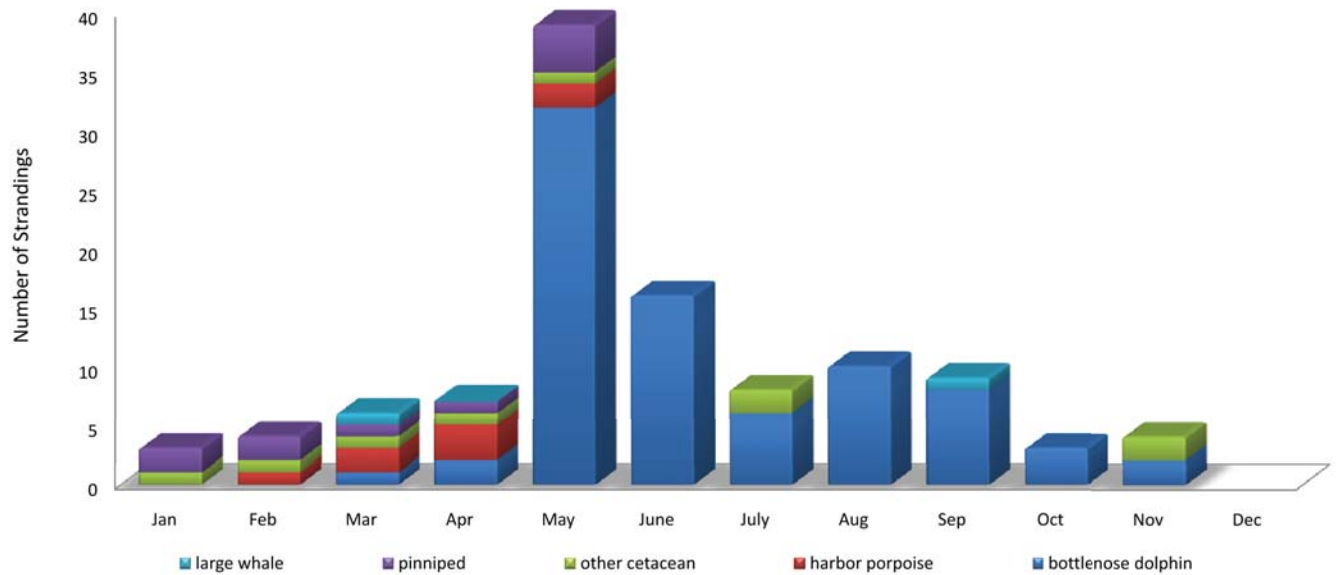


Figure 2: Monthly frequency of marine mammal strandings in Virginia from 2009.

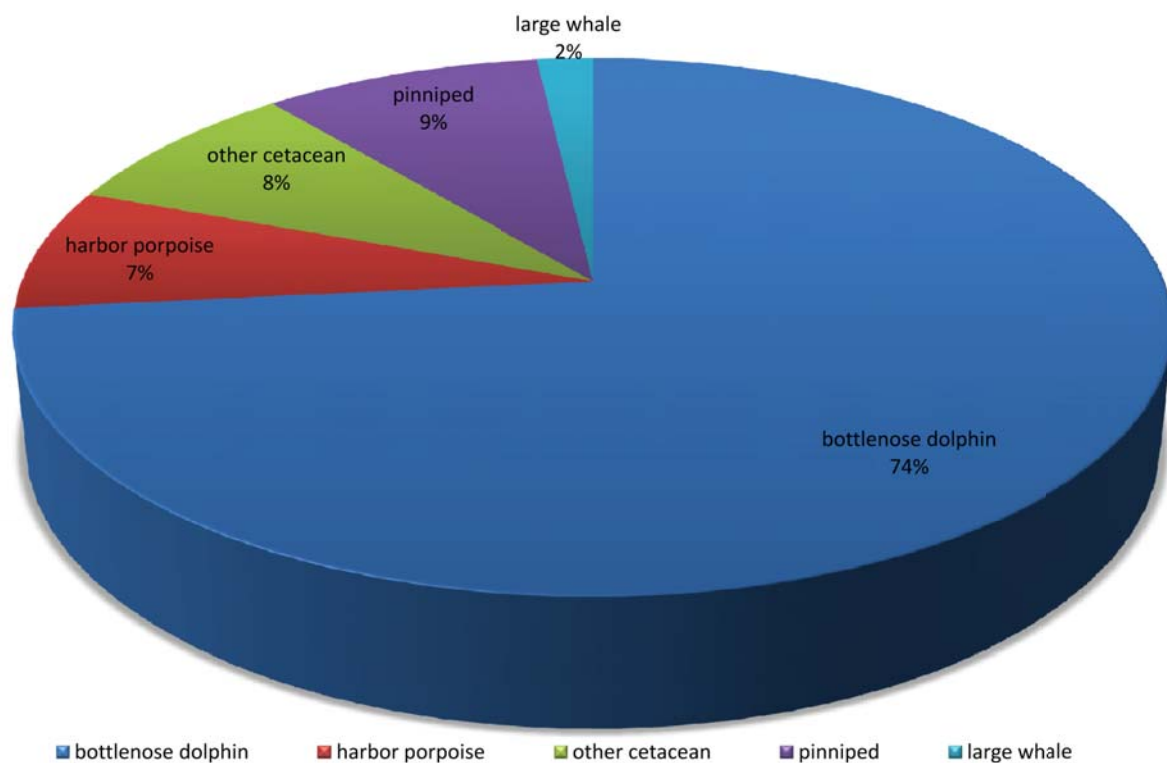


Figure 3: Marine mammal strandings in Virginia from 2009 (bottlenose dolphin n=80, harbor porpoise n=8, other cetaceans n=9, pinnipeds n=10, large whales n=2).

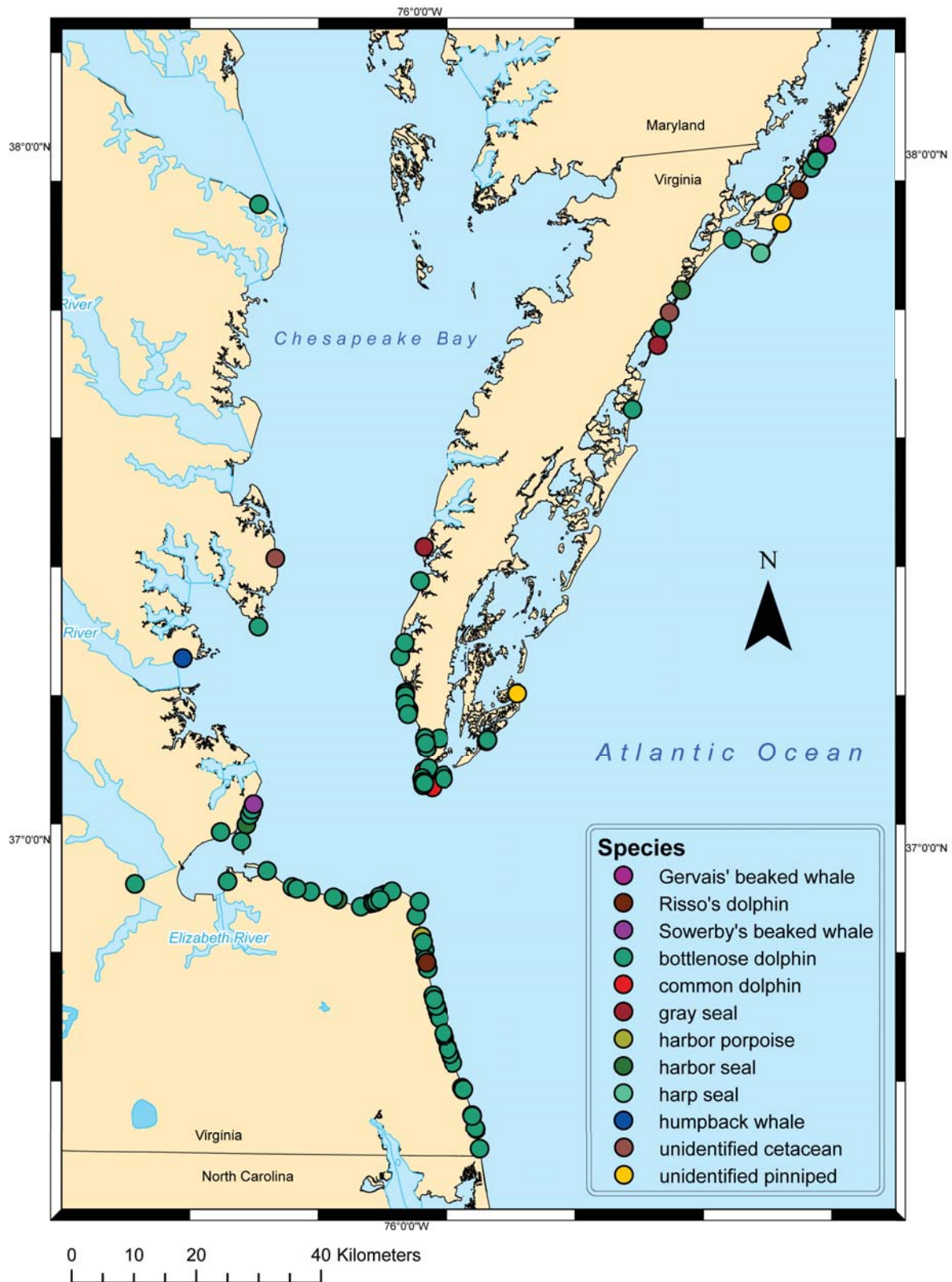
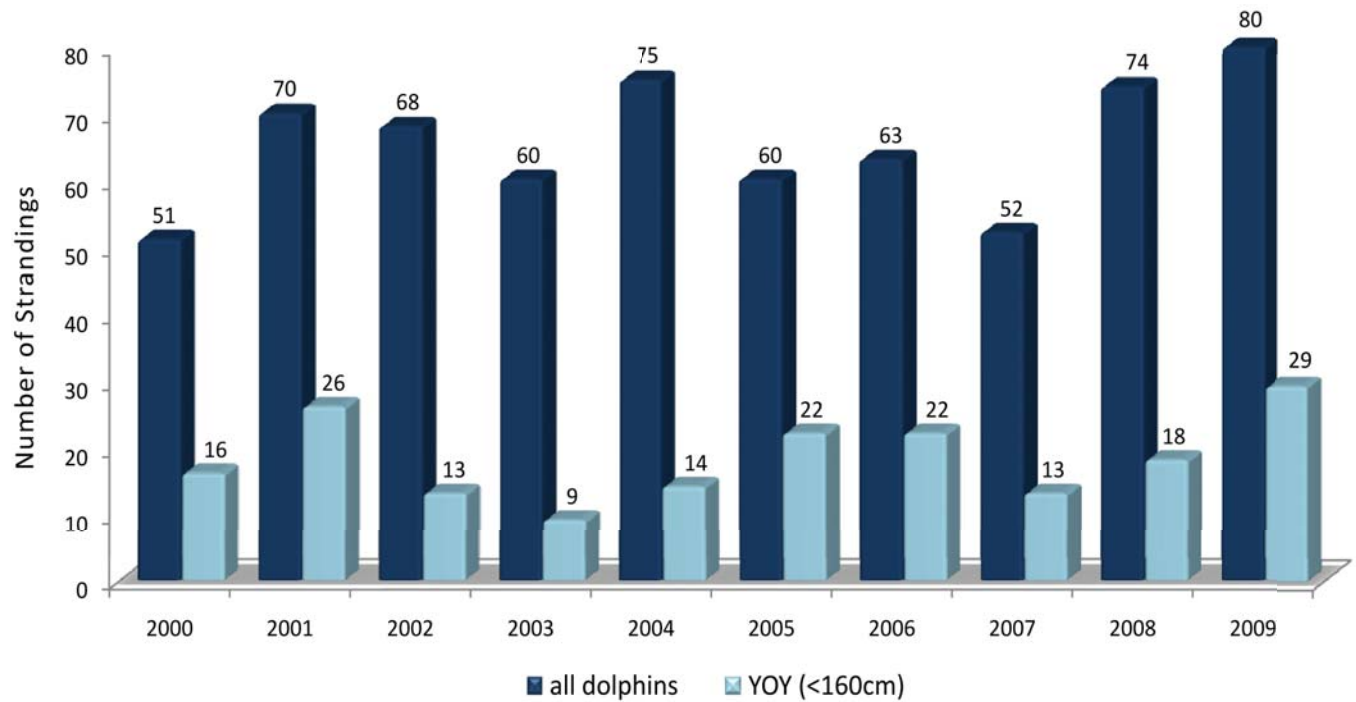


Figure 4: Location of Virginia marine mammal strandings from 2009.

A: Bottlenose dolphin



B: Harbor porpoise

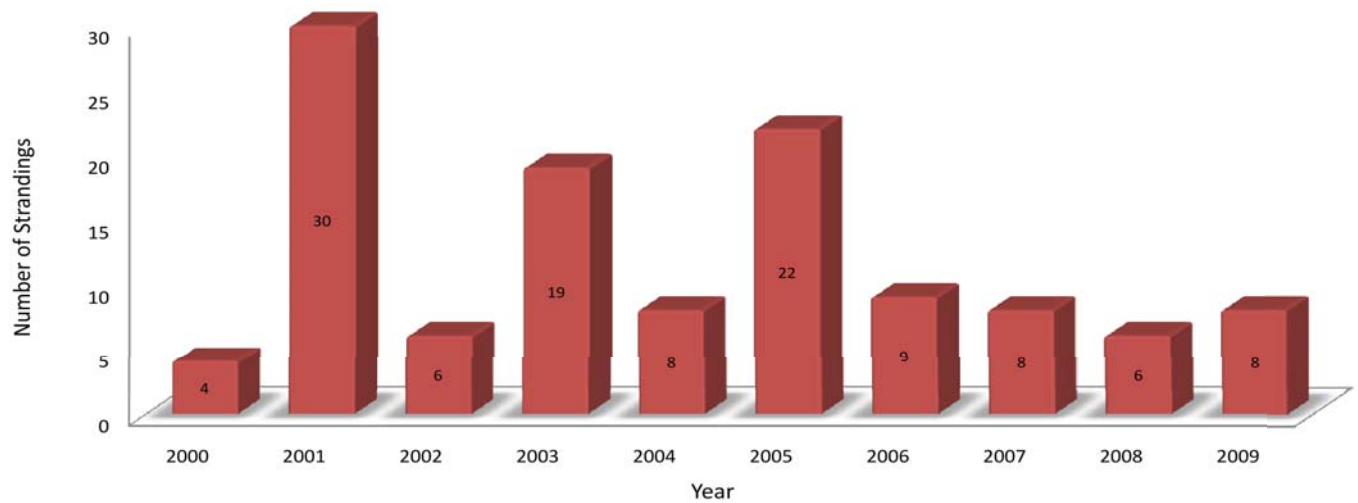
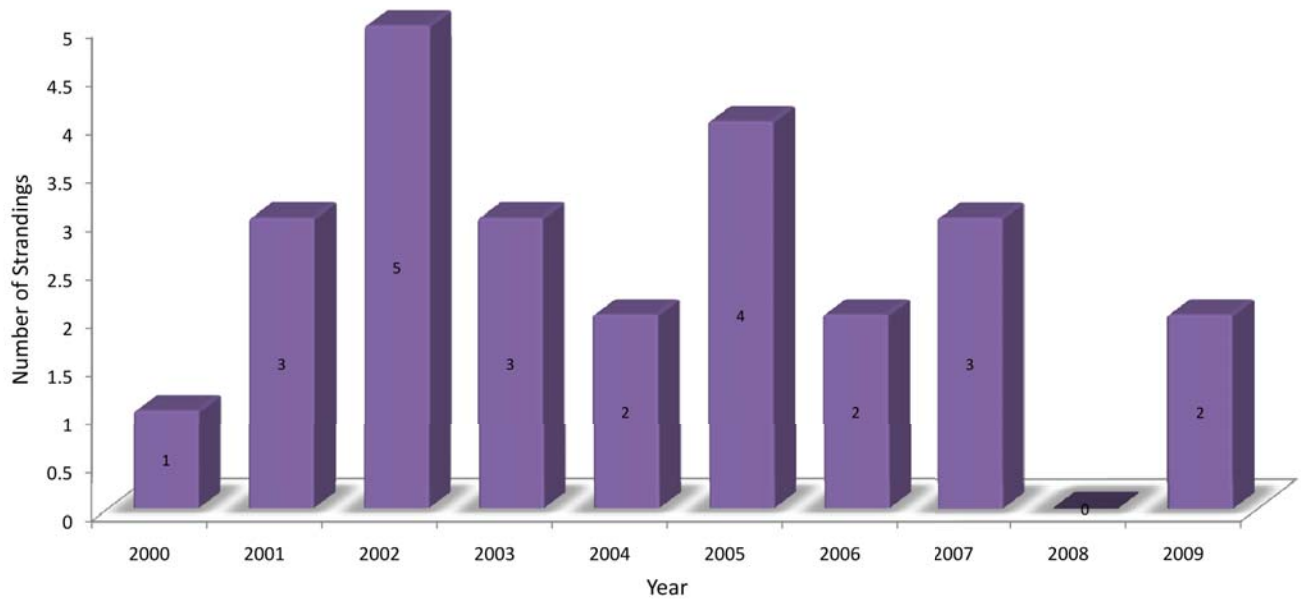


Figure 5A-B: Yearly stranding frequency for bottlenose dolphin and harbor porpoise in Virginia, 2000-2009 (YOY = young of the year).

C: Large whales



D: Pinnipeds

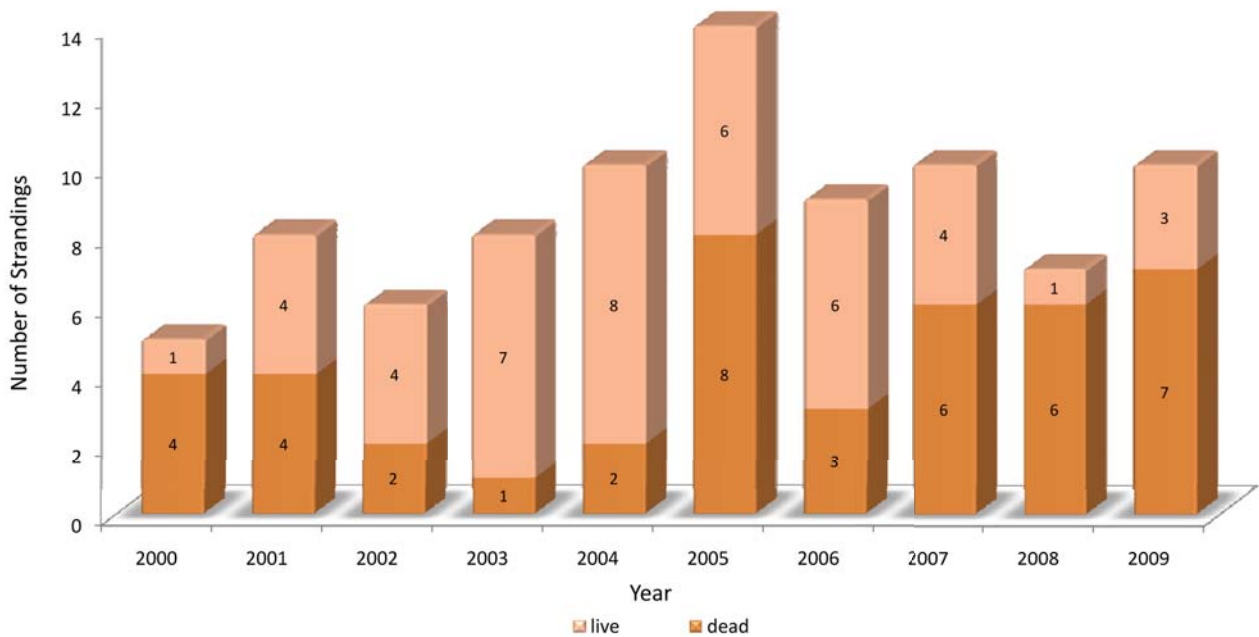


Figure 5 C-D: Yearly stranding frequency for large whales and pinnipeds in Virginia, 2000-2009.

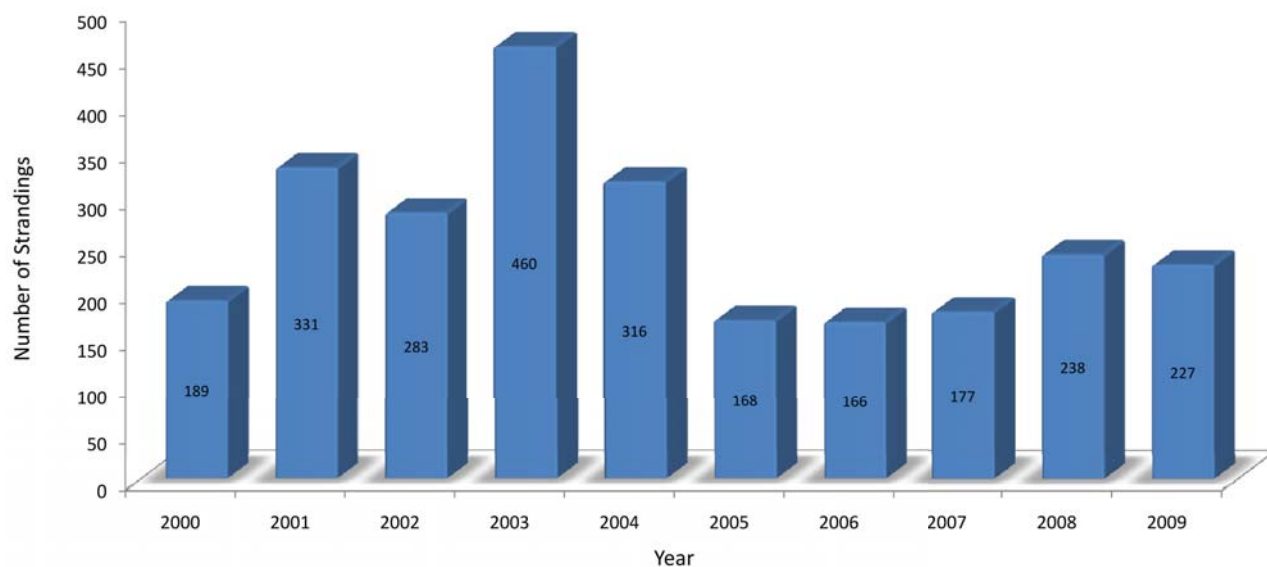


Figure 6: Yearly frequency of sea turtle strandings recorded by VAQS, 2000-2009.

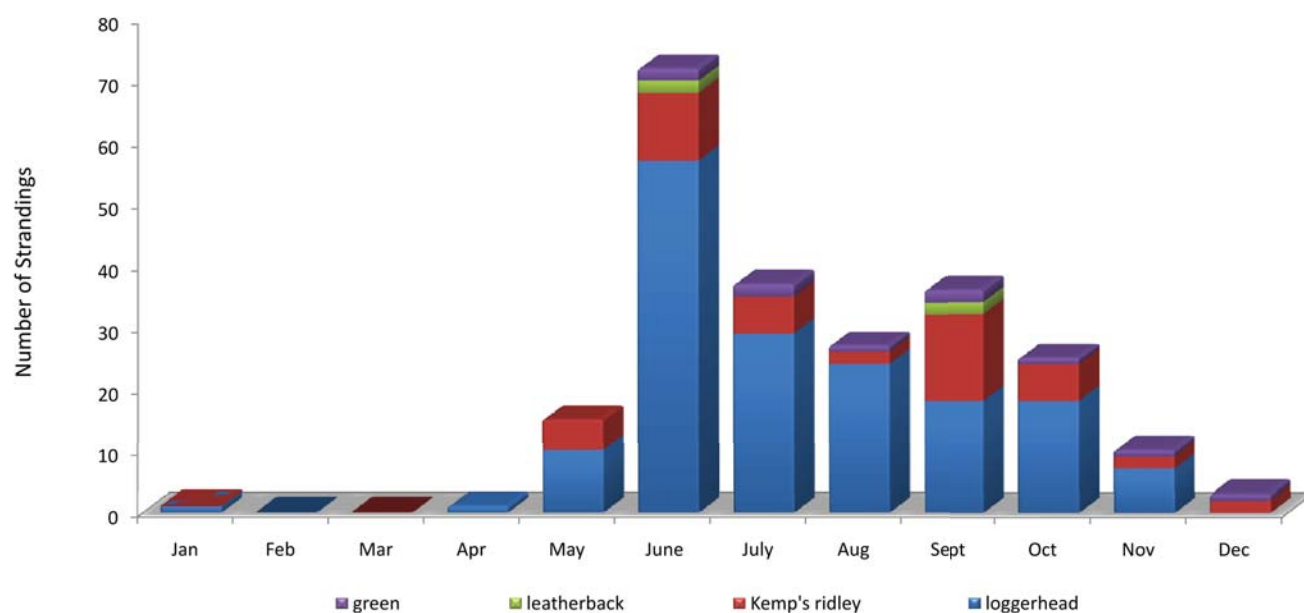


Figure 7: Monthly frequency of sea turtle strandings recorded by VAQS from 2009.

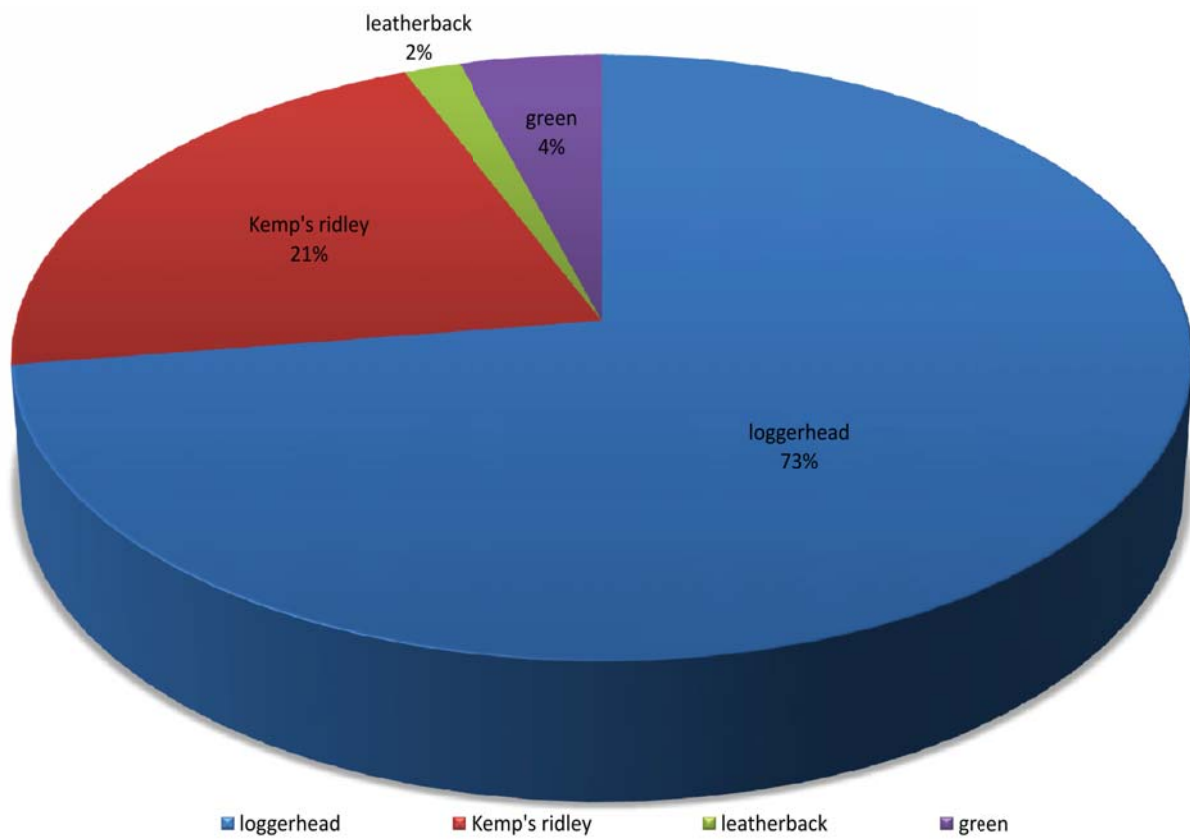


Figure 8: Virginia sea turtle strandings recorded by VAQS from 2009.
(loggerhead n=165, Kemp's ridley n=48, leatherback n=4, green n=10)

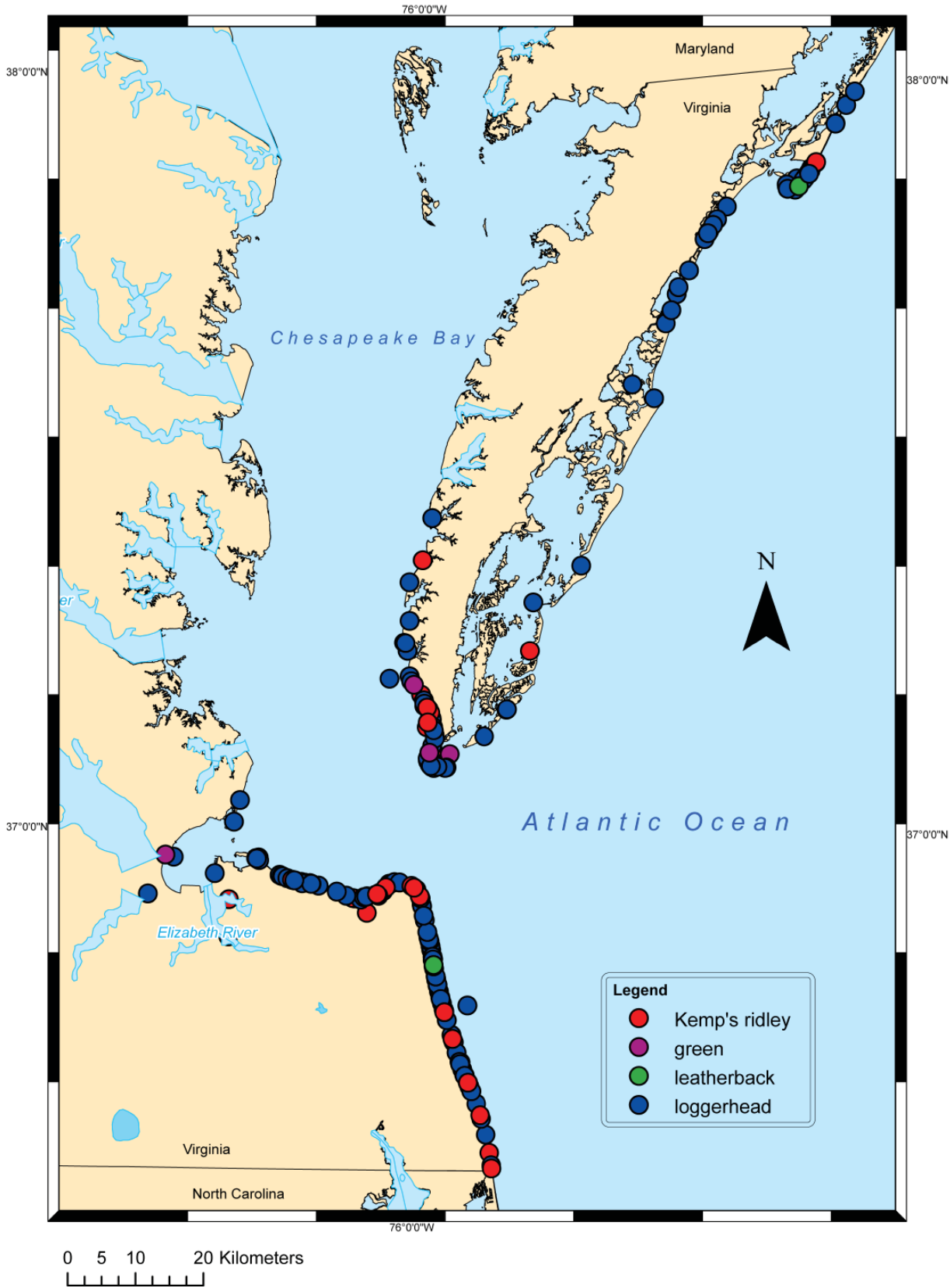


Figure 9: Location of Virginia sea turtle strandings recorded by VAQS from 2009.

Appendix I: Professional and Education Activities

Educational Activities

<u>Name</u>	<u>Dated</u>	<u>Attendance</u>
<u>Festivals and Events</u>		
Marine Mammal Mania-outreach	1/24 -1/25	hundreds
Reptile Weekend at the VLM-outreach	2/14 -2/15	thousands
Harbor Seal Release (Saggy)	3/1/09	50
Stranding Team Annual Volunteer and Cooperator Party	3/13/09	75
Girl Scout night at VAQ-outreach	3/27/09	530
Display at Macy's-outreach	3/28/09	100's
Balloon Turtle presentation at First Landing SP	3/31/09	15
Harp Seal Release (Snuffy)	3/31/09	100
Balloon Turtle presentation at Back Bay NWR	4/6/09	10
WAVY 10 Kid's Talk	4/7/09	TV
ODU Earth Day-outreach	4/23/09	hundreds
City of Virginia Beach's Earth Day at Mt. Trashmore	5/3/09	thousands
Aquarium Charity Golf Tournament	5/13/09	100
Balloon Turtle presentation at Eastern Shore NWR	5/16/09	10
Pungo Strawberry Festival Parade	5/23/09	thousands
Green Sea Turtle Release (Kermit)	6/22/09	250
Loggerhead Sea Turtle Release (Sally)	7/14/09	75
Virginia Aquarium Dolphin Count	8/1/09	75
Onancock Watershed Festival-outreach	9/12/09	500
Loggerhead Sea Turtle Release (Little John)	9/16/09	25
Eastern Shore Birding Festival-outreach	9/19/09	500
<u>Public Presentations</u>		
Croatan Women's Club Talk	1/12/09	20
Keep Norfolk Beautiful Volunteer Talk	2/21/09	110
Hampton Roads Clean Plastic Bag Conference	2/27/09	100
MAMEA Keynote address	2/28/09	50
US Navy Stranding Training (NAVFAC)	3/9/09	40
Marine Debris Presentation for City of Norfolk Green Team	3/13/09	10
US Coast Guard Women in Science Invited Speaker	3/31/09	50
Local Law Enforcement Security Advisory Group Presentation	4/1/09	30
Back Bay Restoration Foundation talk	4/1/09	30
Green Alternatives Marine Debris Presentation	4/7/09	2
WAVY 10 Kid's Talk	4/7/09	TV
Training for Virginia Master Naturalists - Tidewater Chapter	4/27/09	30
Wakefield Women's Club	5/11/09	12
Research Talks at Aquarium	5/18/09	30

Appendix I: Professional and Education Activities *cont.*

<u>Name</u>	<u>Dated</u>	<u>Attendance</u>
Kiwanis Beach Combers talk	5/20/09	20
Virginia Master Naturalists - Eastern Shore Chapter talk	5/21/09	15
Croatan Civic League	6/1/09	12
Cub Scouts talk	6/29/09	85
Volunteer League talk	8/18/09	30
Marine Scientist for a Day Presentation	10/17/09	50

Stranding Center Tours & Group Presentations

Sea Turtle Talk for Teacher training	6/22/09	20
Sea Turtle Talk for Teacher training	6/26/09	20
SWAT Camp Talk	6/29/09	20
SWAT Camp Necropsy Training	6/30/09	20
Teacher Necropsy Training	6/30/09	20
SWAT Camp Talk	7/14/09	20
SWAT Camp Necropsy Training	7/14/09	20
Sea Turtle Talk for Teacher training	7/15/09	20
Stranding Center Teacher Tour	7/16/09	20
SWAT Camp Talk	8/21/09	20
SWAT Camp Necropsy Training	8/21/09	20
International Wildlife Rehabilitators Tour	11/10/09	25
Seatack Elementary School-outreach	11/20 & 11/23	20
Seatack Elementary School Mock Stranding and Beach Cleanup	12/1/09	20

Training Opportunities

<u>Name</u>	<u>Date</u>	<u>Attendance</u>
<u>Stranding Response Team and Cooperator Trainings</u>		
Sea Turtle Natural History Volunteer Training	4/28/09	50
Training for Beach Operations	4/28/09	15
Sea Turtle Stranding Response Training	May 2, 6, 11, 13, 14, 19, 30 June 7	60
Stranding Response Training at Chincoteague NWR	5/21/09	20
Stranding Response Training at Back Bay NWR	5/27/09	5
Stranding Response Training at Eastern Shore NWR	5/28/09	10
Pathology Training	6/1-6/5	50
Virginia Beach Lifeguard Training	7/3/09	50+
VAQS Dolphin Count Volunteer Training	7/30/09	50
Whale Disentanglement Training	Dec 17-18	12

Appendix I: Professional and Education Activities *cont.***Scientific Conferences, Professional Meetings and Workshops**

- Atlantic States Marine Fisheries Commission, ACCSP Bycatch Prioritization Committee Annual Meeting, participated by conference call – January 28
- National Veterinary Conference, Orlando, FL – January 14-17
- 29th Symposium on Sea Turtle Biology and Conservation, Brisbane, Australia – February 14-19
- Hampton Roads Clean Conference: Are Plastic Bags Sacking the Environment?, Smithfield, VA - February 27
- NE Region Stranding Network Conference, Salem, MA – March 25-27
- SE and Mid-Atlantic Marine Mammal Symposium, Wilmington, NC– April 3-5
- Alliance of Marine Mammal Parks and Aquariums Annual Meeting, Alexandria, VA – April 3-7
- Atlantic Large Whale TRT Meeting, Philadelphia, PA – April 27-29
- Marine Spatial Planning Workshop, Wilmington, DE – June 11-12
- Bottlenose Dolphin Life History Workshop, Charleston, SC – July 6-10
- Sea Turtle Watercraft Injury Workshop, Jacksonville, FL – July 27-29
- SE Region Stranding Network Conference, St. Augustine, FL – September 2-4
- Atlantic Bottlenose Dolphin TRT Meeting, Wilmington, NC – September 9-11
- AZA National Conference, Portland, OR – September 13-18
- Biennial Conference on the Biology and Conservation of Marine Mammals, Quebec City, Canada – October 10-16
- Right Whale Consortium Annual Meeting, New Bedford, MA – November 17
- Mid-Atlantic Coastal Ocean Observing Research Association (MACOORA) Annual Meeting, Portsmouth, VA – November 17-18
- NOAA Strategic Plan Meeting, Washington, DC – December 2
- Mid-Atlantic Regional Council for the Oceans (MARCO) Workshop, New York City, NY – December 9-10
- Prescott Stranding Grant Program technical review panel, San Francisco, CA – December 8-11
- Steering Committee for National Stranding Meeting, participated by Conference Calls – December

Scientific Publications and Presentations

- Barco, S.G., Lockhart, G.G, Lagueux, K.M., Knowlton, A.R., Swingle, W.M., 2009. Characterizing Large Vessel Traffic in the Chesapeake Bay ocean approach using AIS and RADAR. Final Report for NFWF Award #2006-0093-009 and VDGIF Contract #2007-10280. VAQF Scientific Report 2009-05. Virginia Beach, VA. 42 pp.
- Barco, S.G., Lockhart, G.G, Lagueux, K.M., Knowlton, A.R., Swingle, W.M., 2009. Using Radar and AIS to Investigate Compliance with U.S. Ship Strike Reduction Measures: Are Ships Slowing Down in Virginia? Presentation to the 18th Biennial Conference on the Biology of Marine Mammals, October 12-16, Quebec City, Quebec, Canada.
- Barco, S.G., Walton, W.J., Cook, M.L., Swingle, W.M., 2009. Response, Rehabilitation & Examination of Stranded Marine Mammals in Virginia. Final Report to NOAA Fisheries, John H. Prescott Marine Mammal Rescue Assistance Grant Program, Award #NA07NMF4390251, VAQF Scientific Report 2009-02, 233 pp.

Appendix I: Professional and Education Activities *cont.*

- Barco, S.G., D'Eri, L.R., Schaffler, J.J., Swingle, W.M., 2009. Do alternative leaders affect fish catch in pound nets at the mouth of Chesapeake Bay? Final Report to NC Sea Grant Bycatch Marine Mammal Program, Sub-Award #2005-2042-04; NC Sea Grant #08-DMM-03. VAQF Scientific Report 2009-04. Virginia Beach, VA. 18 pp.
- Barco, S.G., Anderson, E.A., Harms, C.A., Lovewell, G.N., Walton, W.J. and McLellan, W.A., 2009. Lessons in Large Whale Logistics: A case study in extremes. Presentation to NE Region Stranding Network Meeting, March 25 – 27, Salem, Massachusetts.
- D'Eri, L.R., Barco, S.G., Swingle, W.M., Lockhart, G.G., 2009. Bottlenose Dolphin (*Tursiops truncatus*) Fishery Interactions: Solutions to Pound Net Entanglements in VA. Presentation to the NE Region Stranding Network Meeting, March 25 – 27, Salem, Massachusetts.
- Lockhart, G.G., Barco, S.G., Swingle, W.M. 2009. Testing new ship strike mitigation measures: Are ships slowing down in VA? Presentation to 2009 SE and Mid-Atlantic Marine Mammal Symposium (SEAMAMMS), April 3–5, Wilmington, NC
- Piscitelli, M.A., McLellan, W.A., Rommel, S.A., Blum, J.E., Barco, S.G. and D. Ann Pabst. In press. Lung Size and Thoracic Morphology in Shallow and Deep-Diving Cetaceans. *J Morph.*
- Swingle, W.M., Trapani, C.M., Cook, M.L., D'Eri, L.R. and Barco, S.G. 2009. Marine Mammal and Sea Turtle Stranding Response, 2008 Grant Report. Final Report to the Virginia Coastal Zone Management Program, NOAA CZM Grant NA07NOS4190178, Task 49. VAQF Scientific Report 2009-01, 38 pp.
- Swingle, W.M., Lockhart, G.G., Trapani, C.M., Barco, S.G. 2009. Protocol for Examining Stranded Sea Turtles for Signs of Human Interaction. Final Report to the U.S. Department of Commerce, NOAA Fisheries for Contract #NFFM5100-8-36716. VAQF Scientific Report 2009-06, 30 pp.
- Swingle, W.M., Lockhart, G.G., Trapani, C.M., Barco, S.G., Wright, L.J., 2009. Developing a Sea Turtle Human Interaction Assessment Protocol for Stranded Sea Turtles in the US. Poster Presentation to the 29th Symposium on Sea Turtle Biology and Conservation, February 14-19, Brisbane, Australia.
- Swingle, W.M., Lockhart, G.G., Trapani, C.M., Barco, S.G., Wright, L.J., 2009. Developing a Sea Turtle Human Interaction Assessment Protocol for Stranded Sea Turtles. Presentation to the NE Region Stranding Network Meeting, March 25 – 27, Salem, Massachusetts.
- Swingle, W.M., Lockhart, G.G., Barco, S.G., 2009. Testing New Ship Strike Mitigation Measures: Are Ships Slowing Down in Virginia? Presentation to the NE Region Stranding Network Meeting, March 25 – 27, Salem, Massachusetts.
- Swingle, W.M., D'Eri, L.R., Barco, S.G., 2009. Gear Modification as a Potential Solution to Bottlenose Dolphin (*Tursiops truncatus*) Pound Net Entanglements in Virginia, U.S.A. Presentation to the 18th Biennial Conference on the Biology of Marine Mammals, October 12-16, Quebec City, Quebec, Canada.
- Trapani, C.M., D'Eri, L.R., Lockhart, G.G., Walton, W.J., Wright, L.R., Cook, M.L., Davis, S.J., Barco, S.G. 2009. Gross and Histological Examination of Fresh Dead Sea Turtles in Virginia, 2008. Final Report to the U.S. Department of Commerce, NOAA Fisheries for Contract #NFFM5100-8-35414. VAQF Scientific Report 2009-03, 69 pp.
- Trapani, C.M., O'Hara, K.J., Walton, W.J., 2009. The Effects of Plastic Debris on Marine Mammals and Sea Turtles. Presentation to the Hampton Roads Clean Conference: Are Plastic Bags Sacking the Environment?, February 27, 2009, Smithfield, Virginia.
- Trapani, C.M., Barco, S.G., Lockhart, G.G., D'Eri, L.R., Lynott, M.L., Walton, W.J., Wright, L.J., Davis, S.J., Swingle, W.M., Stacy, B.A., DVM, PhD, DACVP, 2009. Sea Turtle Unusual Mortality Event,

Appendix I: Professional and Education Activities *cont.*

Northampton County Virginia (July through September 2009): Report of Stranding Activity and Necropsy Findings. A report to NOAA Fisheries Service, Office of Protected Resources.

Walton, W.J., Back, S.D., Trapani, C.M., D'Eri, L.R., Cook, M.L., Lockhart, G.G., Wright, L.J., Davis, S.J., Barco, S.G. 2009. Diagnosis and Treatment of an Anthropogenic Esophageal Impaction in a Juvenile Green Sea Turtle. Presentation to the NE Region Stranding Network Meeting, March 25 – 27, Salem, Massachusetts.

Appendix II: Highlights of the year - Marine Mammals



Prior to 2009, Virginia had only had five beaked whale strandings since 1990: a Gervais beaked whale in 1992, a live mom/calf pair of Gervais beaked whales in 2002, a True's beaked whale in 2003, and a Gervais beaked whale in 2007. In 2009, VAQS responded to 3 beaked whale strandings in Virginia and assisted with a stranding in North Carolina. The first beaked whale to strand in Virginia in 2009 was a Sowerby's beaked whale, in Northampton County on Virginia's eastern shore. This was the first Sowerby's beaked whale to strand in Virginia. A second beaked whale, this one on Chincoteague National Wildlife Refuge, was a Gervais' beaked whale. The last beaked whale of 2009 was another Sowerby's beaked whale, this time in Hampton, VA. Samples from these whales were sent to several institutions for evaluation including the Smithsonian and UNC Wilmington.



May brought an early influx of bottlenose dolphin strandings. Usually, VAQS experiences high numbers of bottlenose dolphin strandings spread out over the summer, but not this year. From Chincoteague to False Cape State Park, volunteers and staff responded to 33 bottlenose dolphins solely within the month of May. June saw 15 more bottlenose dolphin strandings including a live juvenile dolphin entangled in strong fishing line (above right). Unfortunately the animal had to be humanely euthanized due to the extensive injuries resulting from the entanglement. The incident marked the first recorded interaction between a marine mammal and this particular type of fishing line. The increase in strandings caused NOAA to declare an Unusual Mortality Event, triggering more sampling and investigative work for VAQS.

Appendix III: Highlights of the year - Sea Turtles



VAQS worked with several live stranded sea turtles, including three different species, from many different states in 2009. These animals include two loggerheads that were hooked on a fishing pier in Norfolk, VA: both were released with satellite transmitters; two loggerheads that had stranded in Massachusetts each spent a few weeks with VAQS until they were able to catch a boat from NC to the Gulf Stream; two severely injured loggerheads from NJ were admitted by VAQS, one had three propeller strikes and one had injuries sustained from a scallop dredge (top left), neither are expected to be released until summer of 2010; a loggerhead was rescued off a pier in Virginia Beach after being entangled in seven pounds of recreational fishing gear; and three loggerheads and two greens (top middle) were transported to VAQS from NC during a cold stunning event on December 23rd. On the same day, a green and a Kemp's ridley (top right) stranded in Virginia due to cold stunning, making December 23rd a very busy day for VAQS staff and volunteers.



In 2009, two unusual stranding events involving sea turtles occurred on Virginia's eastern shore. Both were suspected to be fisheries related. The first occurred on Assateague Island, Accomack County and involved 27 stranded turtles from May 29th through July 12th, many on the inland side of Tom's Cove on Chincoteague NWR (upper left). The second incident involved 36 turtles in Northampton County between Cape Charles and Fisherman Island, from July 24th through September 30th (upper right). Of these turtles, 21 were necropsied, most in robust condition with no signs of disease. Four turtles had injuries consistent with entanglement from pound net gear. A veterinary pathologist from NOAA Fisheries came to Virginia to help investigate this event. A report was submitted to NOAA Fisheries as well as VMRC with hopes of modifying current sea turtle protective rules. VAQS also hopes to establish protocols for responding to sea turtle unusual stranding events, similar to those followed during marine mammal unusual mortality events.

Appendix IV: Stranding Network Datasheets

A: Marine Mammal Level A Datasheet

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: VAQS2009 NMFS REGIONAL #: _____ NATIONAL DATABASE#: _____
(NMFS USE) (NMFS USE)

COMMON NAME: _____ GENUS: _____ SPECIES: _____

EXAMINER Name: _____ Affiliation: Virginia Aquarium Stranding

Address: 717 General Booth Blvd., Virginia Beach, VA 23451 Phone: 757-437-6159

Stranding Agreement or Authority: Virginia Aquarium Stranding

LOCATION OF INITIAL OBSERVATION State: _____ County: _____ City: _____ Body of Water: _____ Locality Details: _____ Lat (DD): _____ N Long (DD): _____ W <input type="checkbox"/> Actual <input type="checkbox"/> Estimated How Determined: (check ONE) <input type="checkbox"/> GPS <input type="checkbox"/> Map <input type="checkbox"/> Internet/Software	OCURRENCE DETAILS <input type="checkbox"/> Restrand GE# _____ Group Event: <input type="checkbox"/> YES <input type="checkbox"/> NO (NMFS Use) If Yes, Type: <input type="checkbox"/> Cow/Calif Pair <input type="checkbox"/> Mass Stranding # Animals: _____ <input type="checkbox"/> Actual <input type="checkbox"/> Estimated Findings of Human Interaction: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD) If Yes, Choose one or more: <input type="checkbox"/> 1. Boat Collision <input type="checkbox"/> 2. Shot <input type="checkbox"/> 3. Fishery Interaction <input type="checkbox"/> 4. Other Human Interaction: _____ How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy <input type="checkbox"/> Other: _____ Gear Collected? <input type="checkbox"/> YES <input type="checkbox"/> NO Gear Disposition: _____ Other Findings Upon Level A: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD) If Yes, Choose one or more: <input type="checkbox"/> 1. Illness <input type="checkbox"/> 2. Injury <input type="checkbox"/> 3. Pregnant <input type="checkbox"/> 4. Other: _____ How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy <input type="checkbox"/> Other: _____																																										
INITIAL OBSERVATION Date: Year: <u>2009</u> Month: _____ Day: _____ First Observed: <input type="checkbox"/> Beach or Land <input type="checkbox"/> Floating <input type="checkbox"/> Swimming CONDITION AT INITIAL OBSERVATION (Check ONE) <input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Condition Unknown	LEVEL A EXAMINATION <input type="checkbox"/> Not Able to Examine Date: Year: <u>2009</u> Month: _____ Day: _____ CONDITION AT EXAMINATION (Check ONE) <input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Unknown																																										
INITIAL LIVE ANIMAL DISPOSITION (Check one or more) <input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 6. Euthanized at Site <input type="checkbox"/> 2. Immediate Release at Site <input type="checkbox"/> 7. Transferred to Rehabilitation: Date: Year: _____ Month: _____ Day: _____ Facility: _____ <input type="checkbox"/> 4. Disentangled <input type="checkbox"/> 8. Died during Transport <input type="checkbox"/> 5. Died at Site <input type="checkbox"/> 9. Euthanized during Transport <input type="checkbox"/> 10. Other: _____ CONDITION/DETERMINATION (Check one or more) <input type="checkbox"/> 1. Sick <input type="checkbox"/> 7. Location Hazardous <input type="checkbox"/> 2. Injured <input type="checkbox"/> a. To animal <input type="checkbox"/> 3. Out of Habitat <input type="checkbox"/> b. To public <input type="checkbox"/> 4. Deemed Releasable <input type="checkbox"/> 8. Unknown/CBD <input type="checkbox"/> 5. Abandoned/Orphaned <input type="checkbox"/> 9. Other: _____ <input type="checkbox"/> 6. Inaccessible	MORPHOLOGICAL DATA SEX (Check ONE) <input type="checkbox"/> 1. Male <input type="checkbox"/> 4. Adult <input type="checkbox"/> 4. Pup/Calif <input type="checkbox"/> 2. Female <input type="checkbox"/> 2. Subadult <input type="checkbox"/> 5. Unknown <input type="checkbox"/> 3. Unknown <input type="checkbox"/> 3. Yearling <input type="checkbox"/> Whole Carcass <input type="checkbox"/> Partial Carcass Straight length: _____ cm _____ in <input type="checkbox"/> actual <input type="checkbox"/> estimated Weight: _____ kg _____ lb <input type="checkbox"/> actual <input type="checkbox"/> estimated PHOTOS/VIDEOS TAKEN: <input type="checkbox"/> YES <input type="checkbox"/> NO Photo/Video Disposition: _____																																										
TAG DATA Tags Were: Present at Time of Stranding (Pre-existing): <input type="checkbox"/> YES <input type="checkbox"/> NO Applied during Stranding Response: <input type="checkbox"/> YES <input type="checkbox"/> NO <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ID#</th> <th>Color</th> <th>Type</th> <th>Placement* (Circle ONE)</th> <th>Applied</th> <th>Present</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>LF LR RF RR</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>LF LR RF RR</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>LF LR RF RR</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p>* D= Dorsal; DF= Dorsal Fin; L= Lateral Body LF= Left Front; LR= Left Rear; RF= Right Front; RR= Right Rear</p>	ID#	Color	Type	Placement* (Circle ONE)	Applied	Present	_____	_____	_____	D DF L	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	D DF L	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	D DF L	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	CARCASS STATUS (Check one or more) <input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 4. Towed: Lat _____ Long _____ <input type="checkbox"/> 7. Landfill <input type="checkbox"/> 2. Buried <input type="checkbox"/> 5. Sunk: Lat _____ Long _____ <input type="checkbox"/> 8. Unknown <input type="checkbox"/> 3. Rendered <input type="checkbox"/> 6. Frozen for Later Examination <input type="checkbox"/> 9. Other: _____ SPECIMEN DISPOSITION (Check one or more) <input type="checkbox"/> 1. Scientific collection <input type="checkbox"/> 2. Educational collection <input type="checkbox"/> 3. Other: _____ Comments: _____ NECROPSIED <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> Limited <input type="checkbox"/> Complete <input type="checkbox"/> Carcass Fresh <input type="checkbox"/> Carcass Frozen/Thawed NECROPSIED BY: _____ Date: Year: <u>2009</u> Month: _____ Day: _____
ID#	Color	Type	Placement* (Circle ONE)	Applied	Present																																						
_____	_____	_____	D DF L	<input type="checkbox"/>	<input type="checkbox"/>																																						
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_____	_____	_____	LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>																																						

B: Sea Turtle Level A Datasheet

SEA TURTLE STRANDING AND SALVAGE NETWORK – STRANDING REPORT

OBSERVER'S NAME / ADDRESS / PHONE:

First _____ M.I. _____ Last _____

Affiliation Virginia Aquarium Stranding Response ProgramAddress 717 General Booth Blvd.Virginia Beach, VA 23451Area code/Phone number 757 437-6159

STRANDING DATE:

Year 2009 Month ☐ Day ☐Turtle number by day ☐

VAQS2009

- State coordinator must be notified within 24 hrs;

this was done by ☐ phone (757)437-6159☐ email ☐ fax (757)437-4933

SPECIES: (check one)

☐ CC = Loggerhead☐ CM = Green☐ DC = Leatherback☐ EI = Hawksbill☐ LK = Kemp's Ridley☐ LO = Olive Ridley☐ UN = Unidentified*Check Unidentified if not positive. Do Not Guess.*Carcass necropsied? ☐ Yes ☐ No

Necropsied by _____

Photos taken? ☐ Yes ☐ No

Species verified by state coordinator?

☐ Yes ☐ No

SEX:

☐ Undetermined☐ Female ☐ Male

Does tail extend beyond carapace?

☐ Yes; how far? _____ cm / in☐ No

How was sex determined?

☐ Necropsy☐ Tail length (adult only)STRANDING LOCATION: ☐ Offshore (Atlantic or Gulf beach) ☐ Inshore (bay, river, sound, inlet, etc)

State _____ County _____

Descriptive location (be specific) _____

Latitude _____ Longitude _____

CONDITION: (check one)

☐ 0 = Alive☐ 1 = Fresh dead☐ 2 = Moderately decomposed☐ 3 = Severely decomposed☐ 4 = Dried carcass☐ 5 = Skeleton, bones only

FINAL DISPOSITION: (check)

☐ 1 = Left on beach where found; painted? ☐ Yes* ☐ No(5)☐ 2 = Buried: ☐ on beach / ☐ off beach;carcass painted before buried? ☐ Yes* ☐ No☐ 3 = Salvaged: ☐ all / ☐ part(s), what/why? _____☐ 4 = Pulled up on beach/dune; painted? ☐ Yes* ☐ No☐ 6 = Alive, released☐ 7 = Alive, taken to rehab. facility, where? _____☐ 8 = Left floating, not recovered; painted? ☐ Yes* ☐ No☐ 9 = Disposition unknown, explain _____*"If painted, what color?"* _____

CARAPACE MEASUREMENTS: (see drawing)

Using calipers

Circle unit

Straight length (NOTCH-TIP) _____ cm / in

Minimum length (NOTCH-NOTCH) _____ cm / in

Straight width (Widest Point) _____ cm / in

Using non-metal measuring tape

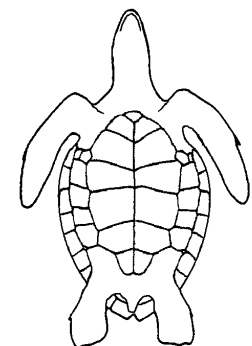
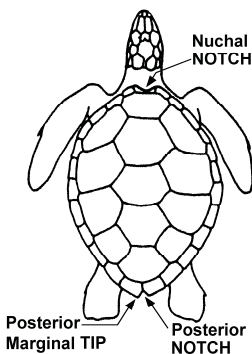
Circle unit

Curved length (NOTCH-TIP) _____ cm / in

Minimum length (NOTCH-NOTCH) _____ cm / in

Curved width (Widest Point) _____ cm / in

Circle unit

Weight ☐ actual / ☐ est. _____ kg / lb

TAGS: Contact state coordinator before disposing of any tagged animal!!

Checked for flipper tags? ☐ Yes ☐ No

Check all 4 flippers. If found, record tag number(s) / tag location / return address

PIT tag scan? ☐ Yes ☐ No

If found, record number / tag location

Coded wire tag scan? ☐ Yes ☐ No

If positive response, record location (flipper)

Checked for living tag? ☐ Yes ☐ No

If found, record location (scute number & side)

Mark wounds / abnormalities on diagrams at left and describe below (note tar or oil, gear or debris entanglement, propeller damage, epibiota, papillomas, emaciation, etc.). Please note if no wounds / abnormalities are found.

Genetics sent _____ Flipper(s) sent _____